

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — [both available on the Council's web page](#).

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? ☐ Yes ☐ No

2. Type of Consent being applied for

(more than one circle can be ticked):

- | | |
|---|---|
| <input type="radio"/> Land Use | <input type="radio"/> Discharge |
| <input type="radio"/> Fast Track Land Use* | <input type="radio"/> Change of Consent Notice (s.221(3)) |
| <input type="radio"/> Subdivision | <input type="radio"/> Extension of time (s.125) |
| <input type="radio"/> Consent under National Environmental Standard
(e.g. Assessing and Managing Contaminants in Soil) | |
| <input type="radio"/> Other (please specify) _____ | |

** The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

3. Would you like to opt out of the Fast Track Process?

☐ Yes ☐ No

4. Consultation

Have you consulted with Iwi/Hapū? ☐ Yes ☐ No

If yes, which groups have you consulted with?

Who else have you consulted with?

For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council tehonosupport@fndc.govt.nz

5. Applicant Details

Name/s:

Waima Topu B C/o Mihi Harris

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

6. Address for Correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s:

Barker & Associates C/o Makarena Dalton

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

** All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.*

7. Details of Property Owner/s and Occupier/s

Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s:

Waima Topu B (Ahuwhenua Trust)

**Property Address/
Location:**

2956 State Highway 12

RD3

Kaikohe

Postcode

0473

Location and/or property street address of the proposed activity:

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

--

☐ Yes ☐ No

11. Other Consent required/being applied for under different legislation

(more than one circle can be ticked):

- ☐ **Building Consent**
- ☐ **Regional Council Consent (ref # if known)**
- ☐ **National Environmental Standard consent**
- ☐ **Other (please specify)**

12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL) ☐ **Yes** ☐ **No** ☐ **Don't know**

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result. ☐ **Yes** ☐ **No** ☐ **Don't know**

- | | |
|--|--|
| <input type="radio"/> Subdividing land | <input type="radio"/> Disturbing, removing or sampling soil |
| <input type="radio"/> Changing the use of a piece of land | <input type="radio"/> Removing or replacing a fuel storage system |

13. Assessment of Environmental Effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as Written Approvals from adjoining property owners, or affected parties.

Your AEE is attached to this application ☐ **Yes**

13. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ☐ **Yes** ☐ **No**

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? ☐ **Yes** ☐ **No**

14. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full)

Waima Topu B

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

Fees Information

An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

Declaration concerning Payment of Fees

I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full)

Mihi Harris

Signature:

(signature of bill payer)

Date

11 May 2025

MANDATORY

15. Important Information:

Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form. You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement. A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:

Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

15. Important information continued...

Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

Name: (please write in full)

Makarena Dalton

Signature:



Date 02-May-2025

A signature is not required if the application is made by electronic means

Checklist (please tick if information is provided)

- ☐ Payment (cheques payable to Far North District Council)
- ☒ A current Certificate of Title (Search Copy not more than 6 months old)
- ☐ Details of your consultation with Iwi and hapū
- ☒ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ☒ Applicant / Agent / Property Owner / Bill Payer details provided
- ☒ Location of property and description of proposal
- ☒ Assessment of Environmental Effects
- ☒ Written Approvals / correspondence from consulted parties
- ☒ Reports from technical experts (if required)
- ☐ Copies of other relevant consents associated with this application
- ☒ Location and Site plans (land use) AND/OR
- ☐ Location and Scheme Plan (subdivision)
- ☒ Elevations / Floor plans
- ☒ Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

A landscape photograph showing a grassy field with scattered trees and a cloudy sky. On the left, there are large, moss-covered trees. The field is covered in green grass and some taller, dry-looking grasses. In the background, more trees and a utility pole are visible under a grey, overcast sky.

Waimā Topu B Papakāinga Development

FNDC Land Use Consent

2956 State Highway 12, Waimā

Assessment of Environmental Effects and Statutory Analysis

13 May 2025

B&A
Urban & Environmental

Prepared for:
Waima Topu B Trust

B&A Reference:

25298

Status:

Final Revision 2

Date:

13 May 2025

Prepared by:



Alex Parr

Planner, Barker & Associates Limited

Reviewed by:



Makarena Dalton

Senior Associate, Barker & Associates Limited



Melissa McGrath

Senior Associate, Barker & Associates Limited

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1.0 Applicant and Property Details

To:	Far North District Council
Site Address:	2956 State Highway 12, Waimā
Applicant Name:	Waimā Topu B Trust
Address for Service:	Barker & Associates Ltd Level 1, 62 Kerikeri Road, Kerikeri Attention: Makarena Dalton
Legal Description:	Waimā Topu B Block (refer to Record of Title as Appendix 1)
Site Area:	688.89 ha
Site Owner:	Māori Freehold Land Administered by Waima Topu B Trust (Ahuwhenua Trust)
District Plan:	Operative Far North District Plan (ODP) Proposed Far North District Plan (PDP)
FNDP Zoning:	ODP: Rural Production PDP: Māori Purpose - Rural
FNDP Overlays & Controls:	ODP: Outstanding Landscape (outside of papakāinga site) PDP: N/A
Designations:	N/A
Additional Limitations:	NRC Hazard: Coastal Flood Hazard Zones 0 – 3 and NRC River Flooding 10, 50 and 100 Yr Extents (outside of papakāinga site)
Locality Diagram:	Refer to Figure 1
Brief Description of Proposal:	To undertake a papakāinga development comprising 17 new 3,000m ² 'Exclusive Use Areas' that provide for up to 34 dwellings, 3 new entrances, shared accessways, onsite infrastructure and associated enabling works.
Summary of Reasons for Consent:	ODP: 8.6.5.4.2 Integrated Development on Māori freehold land, 12.7.6.3 wastewater discharge within 30m of a wetland, 15.1.6A.4.1. traffic intensity, and

infringements to access standards (15.1.6C.1.1, 15.1.6C.1.3).

NES-F: Resource consent also sought from Northland Regional Council for infringements to the National Environmental Standards for Freshwater Regulation 2020.

1.0 Introduction

This Assessment of Environmental Effects report (**AEE**) has been prepared to address a resource consent application submitted by Waimā Topu B Trust (hereafter referred to as 'Waimā Topu B') for a papakāinga development at their whenua at 2956 State Highway 12, Waimā. This report is intended to address the relevant matters under the Resource Management Act 1991 (RMA) for resource consent under the Operative Far North District Plan (**ODP**) and Proposed Far North District Plan (**PDP**).

Resource consent is from the Northland Regional Council (**NRC**) is also sought under the National Environmental Standard for Freshwater for the installation of culvert crossings as part of the proposal.

2.0 Background

The subject site comprises approximately 688 hectares of Māori freehold land and is administered by Waimā Topu B on behalf of its shareholders. Waimā Topu B was established in June 1981 and currently has over 500 owners holding 15,000 shares. The owners predominantly whakapapa to Te Mahurehure and Ngāti Pakau hapū who affiliate to local marae: Otatara, Tuhirangi, Moehau and Tahekeroa, and the taurahere (urban) marae, Mahurehure in Pt Chevalier, Auckland. Waimā Topu B manages whenua comprising of 890 hectares spread across five blocks in Waimā and Hokianga, including the subject site.

Waimā Topu B currently oversees five rental homes and nine papakāinga dwellings on the subject site. With funding support from Te Puni Kōkiri and the Ministry of Housing and Urban Development; Waimā Topu B completed feasibility studies for papakāinga opportunities, papamahi housing workshop and a housing needs survey. These efforts identified demands for both smaller kaumātua units and larger whānau-oriented homes and helped develop a master plan for the site. Waimā Topu B is now seeking resource consent for the proposed masterplan ('**the project**'), with funding support from Te Pouahi o Te Taitokerau Trust.

The project is proposed to be carried out in three stages over 3 development areas, featuring a total of 17 new 'exclusive use areas' for papakāinga housing. There are three existing kāinga adjacent to the proposed development sites, and includes the relocation of one existing kāinga internally within the site (shown as Site 00 on the Architectural Plans). Waimā Topu B proposes to construct the first five exclusive use areas comprising a combination of whānau and kaumātua / kuia papakāinga. The remaining 12 exclusive use areas will be reserved for future papakāinga development.

The project seeks to establish 17 new exclusive use areas to enable a maximum development potential of 34 papakāinga housing units. The approach will assist Waimā Topu B administer the land and future lease agreements that will be established (as required) via the Māori Land Court. The project will enable the whenua to be 'development ready' for whānau to return home. These areas have been established, taking into account the requirements of Te Ture Whenua Māori Act 1993 and are in line with Waimā Topu B's vision and mission for the whenua being:

Vision: "Pupuri te whenua o Te Mahurehure | Holding on to the lands of Te Mahurehure"

Mission: "Mahi i te ara, haere whakamua o nga uri | Creating a pathway for our future generations going forward."

2.1 ODP Definitions

2.1.1 Residential Unit / Dwelling

The ODP defines the term 'Residential Unit / Dwelling' as meaning:

"A building, a room or a group of rooms, used, designed or intended to be used by one or more persons as a self-contained single, independent and separate household. Any accessory building providing sleeping accommodation and bathroom facilities but no cooking or dishwashing or laundry facilities will be treated as forming part of a residential unit / dwelling."

The proposal seeks to provide for two buildings capable of providing sleeping accommodation and bathroom facilities, cooking, dishwashing, and laundry facilities (refer to section 4.1 below) it is considered that they are both Residential Units.

2.1.2 Minor Residential Unit

The ODP defines the term 'Minor Residential Unit' as meaning

"A residential unit that:

- i. is not more than 65m² GFA, plus an attached garage or carport with GFA not exceeding 18m² (for the purpose of vehicle storage, general storage and laundry facilities). The garage area shall not be used for living accommodation;*
- ii. is subsidiary to the principal dwelling on the site; and*
- iii. is located and retained within the same Certificate of Title as the principal dwelling on the site."*

Typologies proposed include a single bedroom typology for kaumātua / kuia, which could technically fall within the definition of minor residential unit. In this instance, given more than one kaumātua / kuia unit is proposed no 'minor residential units' are sought within this application.

2.1.3 Papakāinga Housing

The ODP defines the term 'Papakāinga Housing' as meaning:

"The use of Maori multiple owned land, Maori ancestral land or land within the meaning of Te Ture Whenua Maori Act 1993 by a (the) shareholder(s) for (a) dwelling place(s)."

As set out in section 0 above, the subject site is Māori freehold land and is administered by Waimā Topu B (an Ahuwhenua trust) on behalf of its shareholders. As such, the proposed Residential Units are therefore considered to accord with the definition of 'Papakāinga Housing'.

2.2 Pre-lodgement Consultation

Pre-lodgement consultation has been undertaken with New Zealand Transport Agency (**Waka Kotahi**) given the site gains access from State Highway 12. As a result of consultation, the following amendments have been made the proposal to accommodate feedback:

- Closure of vehicle two existing vehicle crossings at 2981 and 2843 State Highway 12;

- Amend configuration of vehicle access to Development Area 02 (West) and Development Area 02 (East) / Bull Paddock to establish a 't' intersection to enable widening to both entrances to achieve Diagram D standard access to both.

A copy of the latest correspondence with Waka Kotahi is enclosed at **Appendix 12**.

3.0 Site Context

3.1 Site Description

Waimā Topu B is a 688.89ha Māori land block located in Waimā, and is Māori Freehold land under Te Ture Whenua Act 1993. The site is located to the northwest of State Highway 12, as shown in **Figure 1** below. It is bounded by rural lifestyle and rural production properties. The subject site is primarily used as rural farmland, however, five rental homes and nine papakāinga dwellings are currently occupied at the whenua. Additionally, there are a number of existing ancillary farm buildings also established within the site. The site is also identified as subject to coastal hazards and river flooding on Northland Regional Council's Natural Hazards Map, as shown in **Figure 2** below.



Figure 1: Locality plan. CoreLogic Emap.



Figure 2: Natural Hazard Map. Source: Northland Regional Council Natural Hazard Maps.

Natural features include well-established areas of native bush, pasture lands, and wetland areas. Northern Mataraua Forest Protected Natural Area (PNA) 006/002 is within and adjacent to the site. Whawharu Stream runs either through or adjacent to these areas and natural inland wetlands have been identified and mapped within or in proximity to each development area.

The project is located across three development areas, known as Development Area 02 (West), Development Area 02 (East) / Bull Paddock, and Development Area 04 as shown in **Figure 3** below. A summary of the key features of these are detailed as follows:

- The first of these, 'Development Area 02 (West)', is located on the western side of State Highway 12 ('SH 12') and contains two existing kāinga, with the northernmost partially situated across the common boundary with 2981 State Highway 12. This area features two vehicle crossings on SH12 that serve each dwelling. Three wetland areas lie to the northwest of the development area, and the topography of this area is generally flat. A powerline traverses the site from north to south.
- Easterly, across SH12, is the second development area (shown as 'Development Area 02 / Bull Paddock'). It contains one existing kāinga and a single vehicle crossing. Within this area are four wetland features, a stream running through centrally through the development area with an existing crossing, and a mature Kahikatea stand. The land gently slopes from southeast to northwest, with an elevation change of approximately 20m across 380m. A powerline also runs through the western portion of this development area.
- The third development area (shown as 'Development Area 04') lies to the south of the other two, on the western side of State Highway 12. It includes one existing kāinga with a single vehicle crossing, three wetland areas, and a stream that runs north within the eastern portion

of the site, where there is an existing stream crossing. Scattered vegetation is present across the area, and the topography slopes toward the stream.

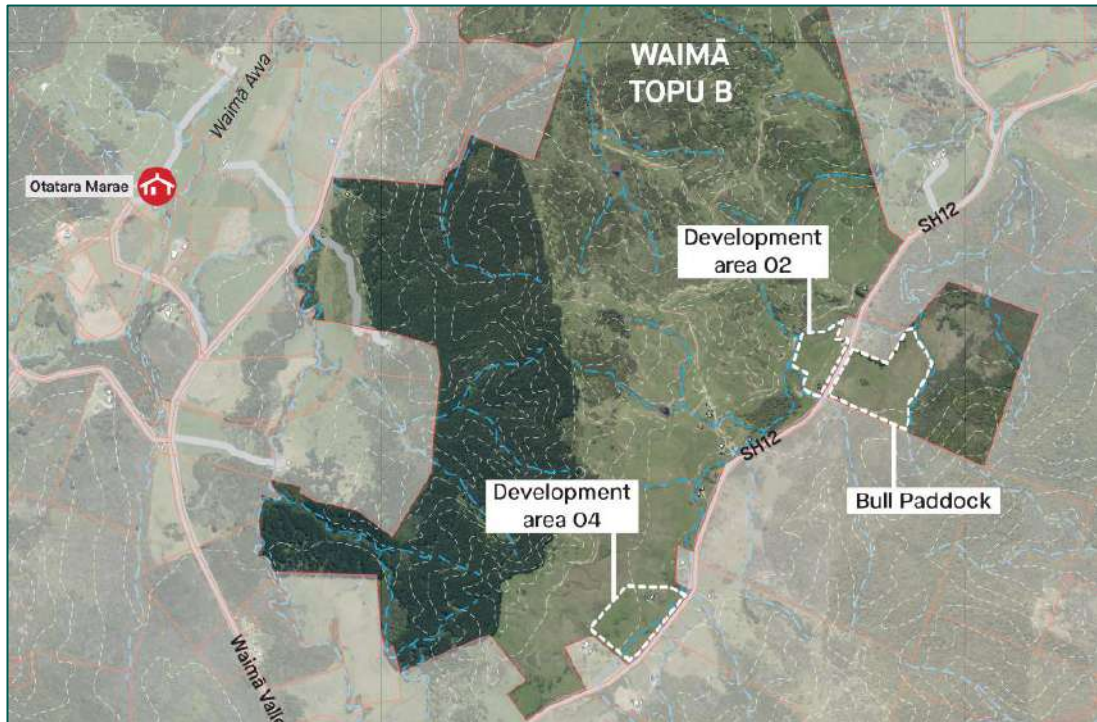


Figure 3: Development Areas. Source: ĀKAU Studio. Refer to Appendix 3 for to scale drawings.

The subject site is identified as Land Use Capability (LUC) 3, 4 and 6 according to the New Zealand Land Resource Inventory (NZLRI).

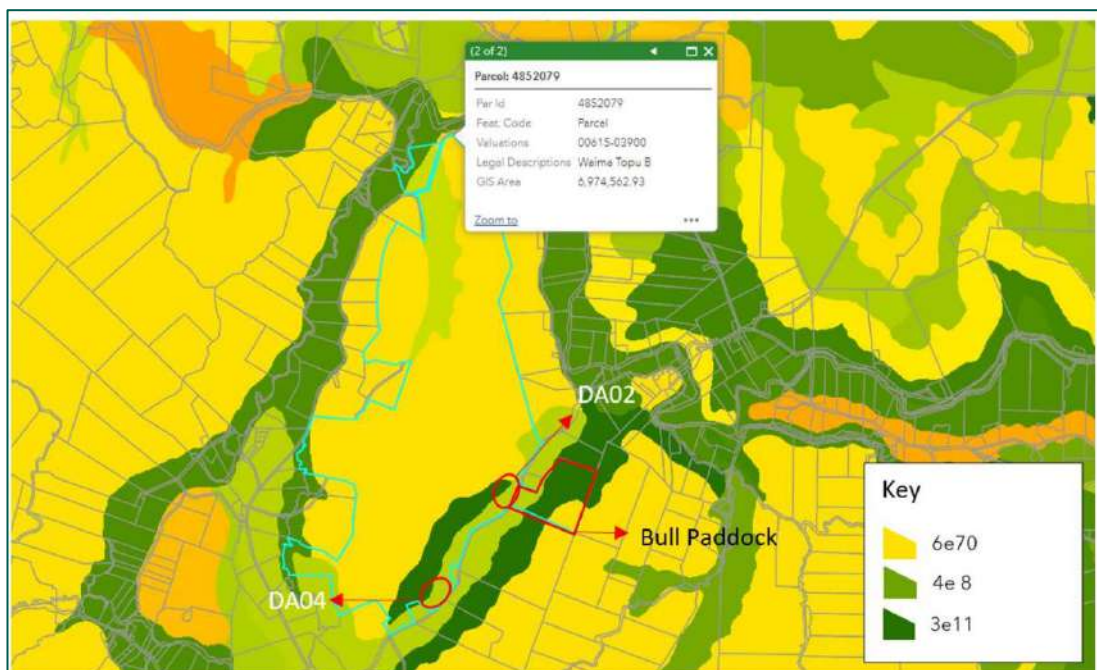


Figure 4: Land Use Capability Map Source: NZLRI.

3.2 Surrounding Locality

The surrounding area is predominantly rural in nature, with various rural lifestyle and rural production properties situated in the lowland and gently sloping terrain and areas of dense bush and forestry within the higher elevations and steep terrain. There are also a number of waterways within the wider area that flow to the Waimā River and eventually to the Hokianga Harbour to the northeast of the site.

In terms of the wider environment, the site is located within the area of Waimā and is served by the Kaikohe Town Centre which is an 18-minute drive from the application site. The town centre offers a range of services and amenities including eateries, convenience stores, health services, professional services, pharmacy and two supermarkets.

The site is also located in close proximity to a number of other amenities including Otatara Marae, Te Kura O Waimā, the Waimā Forest, and Waima settlement.

4.0 Proposal

A summary of the key elements of the proposal is set out below. More detailed descriptions on particular aspects of the proposal are set out in the specialist reports and plans accompanying the application.

4.1 Papakāinga

Development Areas

The site is a productive farm with existing farm buildings, nine existing papakāinga housing units and five rental properties managed by Waimā Topu B. As the administering body, Waimā Topu B has lead master planning (papamahi hui) to develop a long-term vision and mission for the whenua than ensures productive use of the whenua can continue, while identifying localised development areas to provide for papakāinga housing for shareholders and beneficiaries. As such, this resource consent is sought to assist Waimā Topu B manage and administer papakāinga development and the allocation of 'exclusive use areas' for development led by either the Ahuwhenua Trust or individual whānau (shareholders and beneficiaries) as these areas are allocated for development. In setting these 'exclusive use areas' it assists Waimā Topu B to sequence and coordinate allocation of areas for development with infrastructure and investment delivery. This is critical to reduce administrative barriers in the allocation of land under Te Ture Whenua Māori Act. The following development areas are proposed, as shown in **Figure 3** above:

- Development Area 02 (West): Sites 00 – 02;
- Development Area 02 (East) / Bull paddock: Sites 03 – 12
- Development Area 04: Sites 13 – 17

Exclusive Use Areas

It is proposed to establish 17 new 'exclusive use areas' that are to be utilised for papakāinga development, enabling a up to 34 new papakāinga housing units and associated onsite services and infrastructure as set out the in the Architectural Plans prepared by ĀKAU Studio (**ĀKAU**)

enclosed at **Appendix 3**. Each exclusive use area has a minimum area of 3,000m² and has been designed to accommodate a maximum of two papakāinga housing units.

Kāinga Typologies

As detailed above, the proposal seeks to provide for a maximum of two papakāinga housing units per exclusive use area comprising one of the following combinations, with floor plans show in **Figure's 5 and 6**:

- 1 x Whānau Kāinga – 138m² Four Bedroom Unit, and 1 x Kaumātua /Kuia Kāinga – x 65m² One Bedroom Unit; or
- 2 x Kaumātua /Kuia Kāinga – x 65m² One Bedroom Unit.

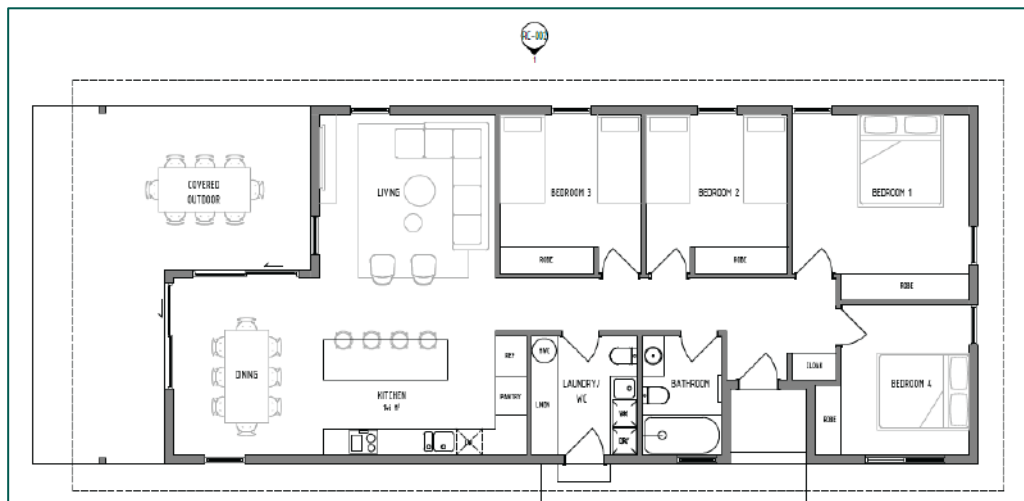


Figure 5: Whānau Kainga – Four-Bedroom Floor Plan. Source: ĀKAU.

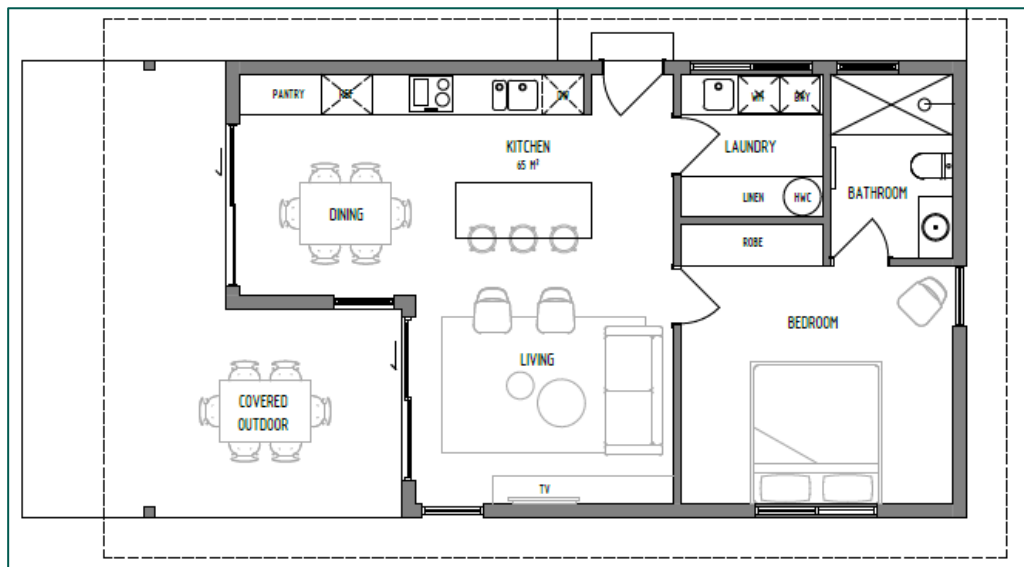


Figure 6: Kaumātua / Kuia – One-Bedroom Floor Plan. Source: ĀKAU.

Vacant Exclusive Use Areas

The remaining papakāinga exclusive use areas are proposed to accommodate a similar level of development as those described above, being a maximum of two residential units, comprising a combination of a Whānau Kāinga and Kaumātua / Kuia Kāinga. It is proposed to manage the design of the 'vacant' exclusive use areas through conditions of consent as set out in **Appendix 2)** and summarised below:

- *Exclusive use areas approved under this consent shall not have more than two residential units as defined by the Operative Far North District Plan 2009.*

Advice Note: Residential Unit is defined by the Operative Far North District Plan 2009 as "A building, a room or a group of rooms, used, designed or intended to be used by one or more persons as a self-contained single, independent and separate household. Any accessory building providing sleeping accommodation and bathroom facilities but no cooking or dishwashing or laundry facilities will be treated as forming part of a residential unit / dwelling."

- *Exclusive use areas approved under this consent shall not have impervious areas exceeding 15%.*
- *Exclusive use areas approved under this consent shall not have a building coverage exceeding 12.5%.*
- *No building within an approved exclusive use area shall be located within an overland flow path identified within the report titled "Civil Suitability Report" prepared by RS Eng Ltd.*
- *No wastewater reserve area within an approved exclusive use area shall be within 15m of any mapped wetland as shown on the plans titled "1.01 Stage 1 and 2 Layout Plan" and "1.02 Stage 3 Layout Plan" prepared by ĀKAU Studios.*
- *Wastewater disposal fields for each exclusive use areas shall be designed in accordance with the recommendations made within the report titled "Civil Suitability Report" prepared by RS Eng Ltd. Details of this shall be provided at the time of lodging a building consent.*
- *Prior to occupation of the first residential unit within each individual exclusive use area shall have potable water tank installed in accordance with the recommendations of the report titled "Civil Suitability Report" prepared by RS Eng Ltd.*
- *All habitable buildings within the approved exclusive use areas shall have a finished floor level no lower than 500mm above the existing ground level as per LiDAR (2018) NZVD2016.*
- *No building within approved exclusive use areas Sites 06-17 shall exceed the maximum approved building envelopes specified below within their respective exclusive use area as shown on the plans titled "1.01 Stage 1 and 2 Layout Plan" and "1.02 Stage 3 Layout Plan" prepared by ĀKAU Studios.*
 - a) **Building height:** *The maximum height of any building shall be 8m;*
 - b) **Sunlight:** *No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any exclusive use boundary;*
 - c) **Boundary Setback:** *No building shall be erected within 3m of any exclusive use boundary; and*
 - d) **Wetland Setback:** *No building shall be erected within 20m of any mapped wetland as shown on the plans titled "1.01 Stage 1 and 2 Layout Plan" and "1.02 Stage 3 Layout Plan" prepared by ĀKAU Studios.*

These conditions impose restrictions on the number of dwellings per area and sets a developable building envelope for the exclusive use areas.

4.2 Construction Staging

The proposal is for the establishment and use of papakāinga housing. It is proposed to stage and coordinate the construction of communal access and infrastructure with the number of papakāinga housing units, whilst providing the flexibility for exclusive use areas to be occupied and developed independently and individually. The scope of this consent includes the construction of kāinga (based upon proposed typologies) within the early stages, and to create flexibility in the later stages of the project, selected exclusive use areas do not have a specified kāinga typology and will remain “vacant” until whānau are able to develop in these areas. It is proposed to manage the design of these areas through conditions of consent. A set of proposed conditions of consent are included as **Appendix 2**. Development plans indicating the staging layout and locations of the exclusive use areas have been prepared by ĀKAU and are included as **Appendix 3**.

Stage 1 – Sites 00 – 08

Stage 1 shown in orange in **Figure 7** below encompasses nine exclusive use areas and shown as Sites 00-08 on the Site Plan, noting that Site 00 involves the relocation of an existing kāinga from the neighbouring property at 2981 State Highway 12. Development proposed as part of Stage 1 involves the following:

- **New Kāinga:** The first five exclusive use areas are identified and confirmed for development that will lead by Waimā Topu B, these are:
 - **Site 01:** 1 x 138m² Whānau Kainga – Four Bedroom Residential Unit and 1 x 65m² Kaumātua / Kuia – One Bedroom Residential Unit;
 - **Site 02:** 1 x 138m² Whānau Kainga – Four Bedroom Residential Unit and 1 x 65m² One Kaumātua / Kuia – Bedroom Residential Unit;
 - **Site 03:** 2 x 65m² Kaumātua / Kuia – One Bedroom Unit;
 - **Site 04:** 2 x 65m² Kaumātua / Kuia – One Bedroom Unit; and
 - **Site 05:** 1 x 138m² Whānau Kainga – Four Bedroom Residential Unit and 1 x 65m² Kaumātua / Kuia – One Bedroom Residential Unit.

New kāinga are proposed for exclusive use areas Sites 01 – 05. The remaining three exclusive areas, being Sites 06 – 08, will be left vacant for future development.

- **Relocate Kāinga:** The relocation of an existing kāinga from the neighbouring property at 2981 State Highway 12. It is noted that at the time of lodgement this kāinga has not been relocated, however, the relevant approvals are held by the Applicant (refer **Appendix 4**). Site 00 will be connected to the new shared access, and the current vehicle access to 2981 SH 12 will be decommissioned.
- **Access:** Two new vehicle crossings on SH 12—positioned directly opposite each other—will be constructed to service the respective sides of the site. The shared accessways for Sites 00 to 02 and Sites 03 – 08 up to the turning circle near the mature Kahikatea stand will be developed during Stage 1. The current vehicle access to 2981 SH 12 will be decommissioned.

- **Servicing:** Sites 01 – 05 will be serviced by way of onsite wastewater, potable water and stormwater management infrastructure established at the time of kāinga construction in accordance with the recommendations of the Site Suitability Report Prepared by RS Eng Ltd, included as **Appendix 6** and summarised in section 4.4 below.
- **Riparian Planting:** Riparian planting around the wetlands D and E in this Stage 1 will be implemented prior to occupation of kāinga within Site 03.

Stage 2 – Sites 09 to 12

Stage 2 shown in blue in **Figure 7** below establishes four exclusive use areas, being Sites 09 – 12, and enables the construction of 8 new kāinga incrementally. Construction of the kāinga must be coordinated with the construction of a shared accessway and delivery of onsite infrastructure servicing. Therefore, Stage 2 involves the following:

- **New kāinga:** Construction of 8 new papakāinga housing units.
- **Servicing:** Onsite wastewater, potable water and stormwater management infrastructure will be provided within each exclusive use area at time of construction of kāinga in accordance with recommendations of **Appendix 6**.
- **Access:** A shared accessway and associated stormwater management will be extended from the end of the Stage 1 to service Sites 09 - 12, including the construction of a culvert over the existing stream.
- **Riparian Planting:** Riparian planting around the wetlands within Stage 2 will be established prior to the occupation of kāinga within Site 09.

Stage 3 – Sites 13 to 17

Stage 3 shown in green in **Figure 7** below establishes five new exclusive use areas, being Sites 13 – 17. Development proposed as part of Stage 3 involves the following:

- **New Kāinga:** Construction of 10 new papakāinga housing units.
- **Servicing:** Onsite wastewater, potable water and stormwater management infrastructure will be provided within each exclusive use area at time of construction of kāinga in accordance with recommendations of **Appendix 6**.
- **Access:** It is proposed to upgrade an existing vehicle crossing to a Diagram C entrance and will provide access to five new exclusive use areas and the existing kāinga at 2843 SH12. The existing entrance to 2843 SH12 will be decommissioned following the construction of the entrance and accessway.
- **Riparian Planting:** Riparian planting around the wetland within Stage 3 will be completed prior to the occupation of kāinga within Sites 13 – 17.



Figure 7: Proposed Staging. Source: ĀKAU.

Conditions of consent have been offered within **Appendix 2** to ensure that the proposal is carried out in accordance with the above description.

4.3 Access and Parking

Three new vehicle crossings from SH 12 and the closure of two existing crossing at 2915 and 2981 SH12. Two new crossings are proposed opposite each other to provide access to the northern most development areas. Proposed access arrangements are summarised below:

- **Stage 1 – Sites 00-08:**
 - New crossing serving Sites 00-02 and will be constructed to New Zealand Transport Agency (NZTA) Diagram D standard;
 - New crossing serving Sites 09-12 and will be constructed to New Zealand Transport Agency (NZTA) Diagram D standard;
 - Closure of the existing vehicle crossing at 2981 SH12;
 - Shared internal access with a 4.5m wide single carriageway with stormwater drains to Sites 00 – 02, and shared internal access with a 6.0m wide dual carriageway with stormwater drains to Sites 03 – 12; and
 - 9.5m Radius cul-de-sac.
- **Stage 2 – Sites 09-12**
 - Construction of a shared internal accessway with 4.5m wide single carriageway with stormwater drains. A new culvert is proposed and is designed in accordance with the FNDC ES 2023, 10% Annual Exceedance Probability event, and National Environmental Standards for Freshwater 2020.
- **Stage 3 – Sites 13 – 17:**
 - Upgrade vehicle crossing serving Sites 13 – 17 and will be constructed to New Zealand Transport Agency (NZTA) Diagram C standard;
 - Upgrade existing culvert and construction of a new 4.5m wide single carriageway with stormwater drains. The culvert is designed in accordance with the FNDC ES 2023, 10%

Annual Exceedance Probability event, and National Environmental Standards for Freshwater 2020.

Sufficient on-site manoeuvring is provided so that all vehicles can exit the site in a forward gear. Vehicle tracking and visibility splay diagrams have been provided with the Transportation Report prepared by Engineering Outcomes Ltd, included as **Appendix 65**.

4.4 Servicing

The servicing strategy for the proposed development is set out in the report and accompanying drawings by RS Eng Ltd, included as **Appendix 6**. In summary, it is concluded that all exclusive use areas and proposed papakāinga housing units can be appropriately serviced in terms of stormwater, wastewater, water supply, power and telecommunications.

4.4.1 Flood Modelling

As outlined in section 3.1 above the site is subject to coastal hazards and river flooding on Northland Regional Council's Natural Hazards Map. However, the development areas of the site are outside of the identified areas subject to hazard risk. To determine the potential flood hazard for the development areas from the Whawharu Stream RS Eng Ltd has prepared a flood model within **Appendix 6**. The indicative extent of the 1% Annual Exceedance Probability plus climate change flood hazard is shown in **Figure 8** and **Figure 9** below. In accordance with the recommendations made by RS Eng Ltd within their flood assessment (refer **Appendix 6**) all buildings will have a finished floor level at least 0.5m above existing ground level.,

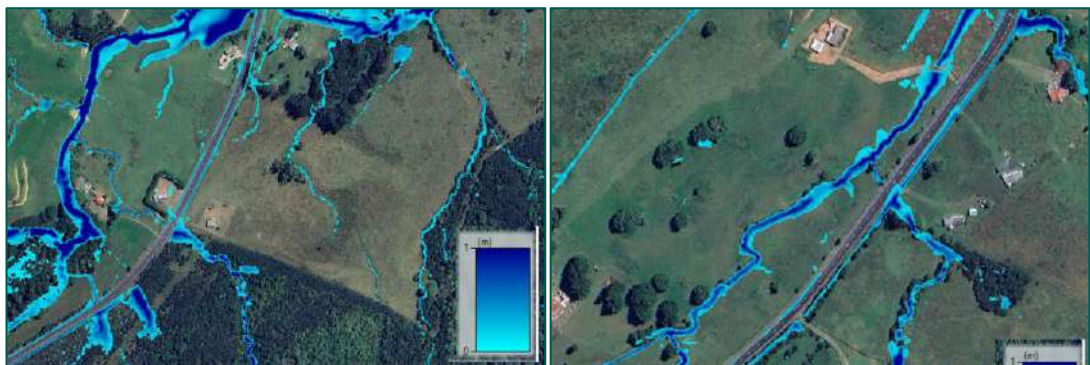


Figure 8 & Figure 9: 1% Annual Exceedance Probability plus Climate Change Flood Hazard. Source: RS Eng Ltd.

4.4.2 Stormwater Management

The proposed development includes impermeable surfaces totalling less than 2 hectares, which will result in a total impervious coverage for the site of less than 1%. Stormwater treatment is proposed for runoff from accessways and paved surfaces through grass-lined swale drains running parallel to the proposed accessways. It is proposed to manage stormwater runoff as follows:

- **Stages 1 & 2:** Stormwater from the first two development areas (DA02 and Bull Paddock) will be discharged to ground via dispersal structures or, where feasible, into roadside water table drains.
- **Stage 3:** In the final development area (DA04), stormwater will be directed to water table drains or a stable watercourse where feasible. Where disposal via these flow paths is not viable, surface water will be managed through dispersal trenches or similar devices to return it to sheet flow.

4.4.3 Wastewater Disposal

To demonstrate that wastewater from the papakāinga development can be appropriately serviced RS Eng Ltd have provided site plans (refer **Appendix 6**) indicating that each exclusive use area can accommodate building footprints and wastewater disposal fields capable of complying with the Proposed Northland Regional Plan's (PRP).

4.4.4 Potable and Firefighting Water Supply

Potable water supply to the papakāinga will be provided via individual onsite tanks fed by roof capture. RS Eng Ltd consider firefighting water supply can be established via dedicated 45m³ communal supply or individual on-site 10m² tanks which can be demonstrated at the time of building consent.

4.5 Site Works

Earthworks of approximately 1,025m³ cut and 235m³ fill across an area of 4,980m² are required to establish suitable levels for the proposed accessways. A maximum cut depth of 1.4m and a maximum fill depth of 1.2m is proposed. Earthworks plans and silt and sediment control measures are included with the engineering plans in **Appendix 6**. A Geotechnical Investigation Report has been prepared by RS Eng Ltd and is included as **Appendix 7** to support the proposal.

4.6 Ecology

An Ecological Assessment for the development areas has been prepared by Bay Ecological Consultancy Ltd and is included as **Appendix 8**. *Natural inland wetlands* subject to the National Environmental Standards for Freshwater (NES-F) have been recognised by dominant hydrophytic floral assemblages supported by evidence of persistent site hydrology. The wetlands are diagnostically ephemeral or swamp. The wetlands identified are largely shallow, exhibiting saturation at/ or just below surface level during the site visit (extended dry conditions). All wetlands are within immediate catchments of the Whawharu Stream or tributaries. The Ecological Assessment recommends a number of actions to manage potential effects of the development including:

- Ongoing protection of the natural inland wetlands;
- Ongoing pest and weed management;
- Enhancement planting and fencing at the edge of the wetland and kahikatea stand; and
- Retention of individual totara and puriri within Stage 3.

4.7 Duration of Consent

In accordance with Section 123 of the RMA, a **10-year consent** duration is requested for the following reasons:

- (a) Each of the exclusive use areas must be established via the Māori Land Court, processes for establishing either licence to occupy or occupation orders (i.e., leases or orders) that can take up to a minimum of 2 years to proceed through the courts.

- (b) Traditional lending pathways are not always available leading to complicated and difficult project financing. Obtaining resource consent is the first step to establishing project feasibility to support funding applications or seek lending from banks.
- (c) It is cost effective and efficient avoiding the need for repeated consenting processes.
- (d) The proposal is a multi-stage development, proposed over three distinct development areas.

5.0 Reasons for Consent

A rules assessment against the provisions of the Operative Far North District Plan ('ODP') is attached as **Appendix 9**. The site is zoned Rural Production and is subject to the Outstanding Landscape overlay. The site is proposed to be zoned Māori Purpose – Rural with no overlays in the Proposed Far North District Plan ('PDP'). The PDP contains rules with immediate legal effect, a rules assessment against those rules is enclosed as **Appendix 10**. The proposal requires consent for the matters outlined below.

5.1 Operative Far North District Plan

Chapter 8 - Rural Environment - Section 6 – Rural Production Zone

- The proposal is for papakāinga housing on Māori freehold land which does not comply with the density threshold of 1 residential unit per 3,000m² under Rule 8.6.5.2.2 Papakāinga Housing. As such, **discretionary activity** resource consent is sought for an Integrated Development pursuant to Rule 8.6.5.4.2.

Chapter 12 - Natural and Physical Resources

- The indicative wastewater fields are within 30m of the identified wetlands on site, with a maximum encroachment of 15m to the required setback. This is a **discretionary activity** pursuant to Rule 12.7.6.3.

Chapter 15 - Transportation

- The proposal has a traffic intensity factor of 204 with access via a State Highway, where 30 is permitted. This is a **discretionary activity** pursuant to Rule 15.1.6A.4.1.
- The proposal involves private access in the Rural Production Zone that does not meet the following access standards and is a **discretionary activity** pursuant to Rule 15.1.6C.2.
 - Access from State Highway 12, serving more than 8 household equivalents that is not proposed to be vested a public road;
 - Access will be longer than 100m with no passing bays;
 - Access will be designed to comply with New Zealand Transport Agency standards; and
 - Access to Stages 2 and 3 will be 4.5m wide serving more than two properties.

5.2 National Environmental Standards for Freshwater

The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-FW**) came into force on 9 September 2020 with some amendments made in 2021 and 2022 in relation to feedlots and farming.

The proposal involves the construction of culverts within 10m of Wetlands A and F within D as part of Stage 2 of the construction works. Resource consents are required as a **restricted discretionary activity** pursuant to regulation 47 of the NES-FW as it cannot comply with Regulation 46(4)(b) and (c). Separate resource consents are sought from NRC for these matters.

5.3 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS) were gazetted on 13th October 2011 and took effect on 1st January 2012.

The standards are applicable if the land in question is, or has been, or is more likely than not to have been used for a hazardous activity or industry and the applicant proposes to subdivide or change the use of the land, or disturb the soil, or remove or replace a fuel storage system.

The site is not located on Northland Regional Councils Selected Land Use register and there is no information that suggests that the site has been used for any activities that are on the Hazardous Activities and Industry List (HAIL) or evidence of migration of hazardous substances from adjacent land use. Based on the above, the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS) does not apply to the proposal.

5.4 Activity Status

Overall, this application is for a discretionary activity.

6.0 Public Notification Assessment (Sections 95A, 95C and 95D)

6.1 Assessment of Steps 1 to 4 (Sections 95A)

Section 95A specifies the steps the council is to follow to determine whether an application is to be publicly notified. These are addressed in statutory order below.

6.1.1 Step 1: Mandatory public notification is required in certain circumstances

Step 1 requires public notification where this is requested by the applicant; or the application is made jointly with an application to exchange of recreation reserved land under section 15AA of the Reserves Act 1977.

The above does not apply to the proposal.

6.1.2 Step 2: If not required by step 1, public notification precluded in certain circumstances

Step 2 describes that public notification is precluded where all applicable rules and national environmental standards preclude public notification; or where the application is for a controlled activity; or a restricted discretionary, discretionary or non-complying boundary activity.

In this case, the applicable rules do not preclude public notification, and the proposal is not a controlled activity or boundary activity. Therefore, public notification is not precluded.

6.1.3 Step 3: If not required by step 2, public notification required in certain circumstances

Step 3 describes that where public notification is not precluded by step 2, it is required if the applicable rules or national environmental standards require public notification, or if the activity is likely to have adverse effects on the environment that are more than minor.

As noted under step 2 above, public notification is not precluded, and an assessment in accordance with section 95A is required, which is set out in the sections below. As described below, it is considered that any adverse effects will be no more than minor.

6.1.4 Step 4: Public notification in special circumstances

If an application is not required to be publicly notified as a result of any of the previous steps, then the council is required to determine whether special circumstances exist that warrant it being publicly notified.

Special circumstances are those that are:

- Exceptional or unusual, but something less than extraordinary; or
- Outside of the common run of applications of this nature; or
- Circumstances which make notification desirable, notwithstanding the conclusion that the adverse effects will be no more than minor.

It is considered that there is nothing noteworthy about the proposal. The proposal is for papakāinga housing to support the social, cultural and economic wellbeing on the applicant on their whenua. The ODP anticipates papakāinga housing within the RPROZ on Māori Freehold Land in accordance with Rule 8.6.5.4.2 Integrated Development. The proposal has been designed to accord with the criteria set out in that rule. It is therefore considered that the application cannot be described as being out of the ordinary or giving rise to special circumstances.

6.2 Section 95D Statutory Matters

In determining whether to publicly notify an application, section 95D specifies a council must decide whether an activity will have, or is likely to have, adverse effects on the environment that are more than minor.

In determining whether adverse effects are more than minor:

- Adverse effects on persons who own or occupy the land within which the activity will occur, or any land adjacent to that land, must be disregarded.

The land to be excluded from the assessment is listed in section 6.3 below.

- Adverse effects permitted by a rule in a plan or national environmental standard (the 'permitted baseline') may be disregarded.

In this case the following activities can be undertaken as a permitted baseline:

- Residential development at a density of one unit per 12ha of land, with at least 3,000m² for the exclusive use surrounding the unit plus a minimum of 11.7ha elsewhere on the property. A total of 34 new papakāinga housing units are proposed and there are 14 existing residential units (papakāinga units or rentals). This means the overall site will have a density of one residential unit per 14.33ha of land, noting that one residential unit per 12ha of land is permitted within the Rural Production Zone where it complies with rule 8.6.5.1.1.
- Buildings that comply with sunlight, stormwater management, setback, height, and building coverage standards; and
- Earthworks up to 5,000m³.

It is considered that this forms a baseline that can be usefully applied to the proposal, including the effects in relation to residential and building intensity.

- Trade competition must be disregarded.

This is not considered to be a relevant matter in this case.

- The adverse effects on those persons who have provided their written approval must be disregarded.

No persons have provided their written approval for this proposal.

The sections below set out an assessment in accordance with section 95D, including identification of adjacent properties and an assessment of adverse effects.

6.3 Land Excluded from the Assessment

In terms of the tests for public notification (but not for the purposes of limited notification or service of notice), the adjacent properties to be excluded from the assessment are shown in Error! Reference source not found. below, and include:

- (1) 2981 State Highway 12;
- (2) 2984 State Highway 12;
- (3) 2900 State Highway 12;
- (4) 2859 State Highway 12

- (5) 2848 State Highway 12;
- (6) 2818 State Highway 12; and
- (7) 2795 State Highway 12.

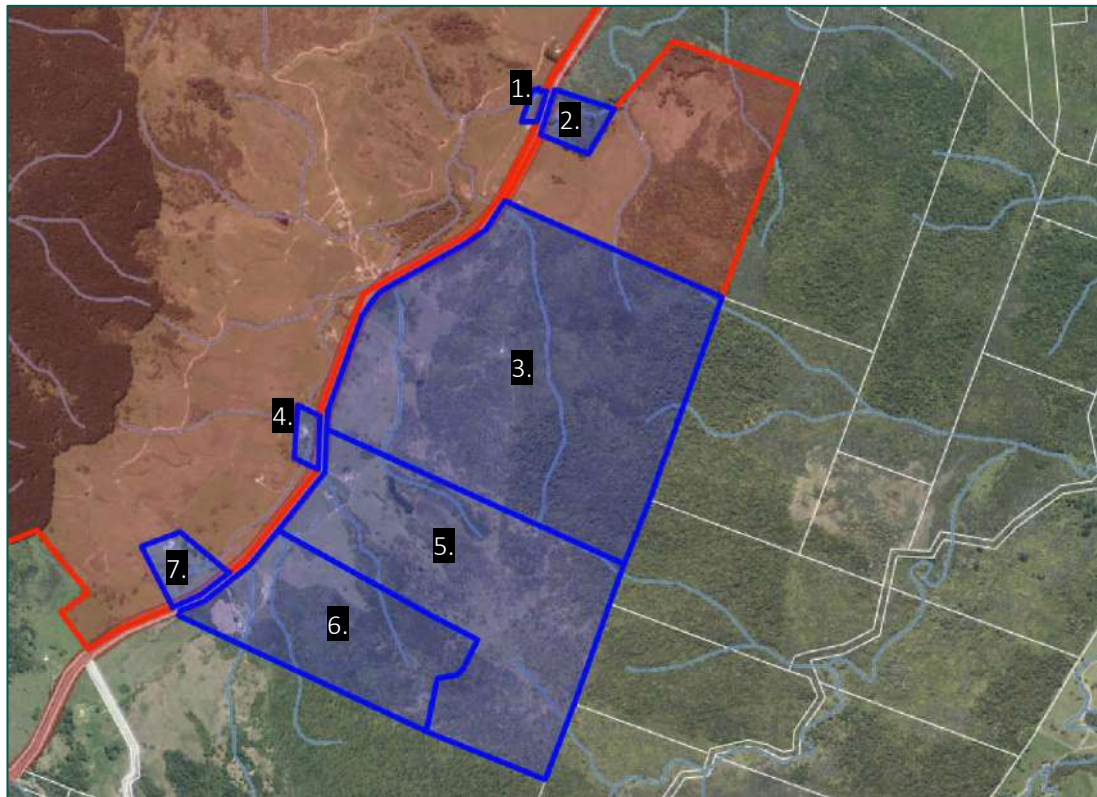


Figure 10: Adjacent properties in relation to subject site. Source: CoreLogic Emaps.

6.4 Assessment of Effects on the Wider Environment

The following sections set out an assessment of wider effects of the proposal, and it is considered that effects in relation to the following matters are relevant:

- Rural character, amenity and building intensity;
- Transportation;
- Natural hazards;
- Earthworks and construction;
- Onsite servicing;
- Productive capacity, fragmentation and reverse sensitivity;
- Ecology and biodiversity;
- Māori cultural values; and
- Cumulative effects.

These matters are set out and discussed below.

6.4.1 Rural Character, Amenity and Building Intensity Effects

The proposed papakāinga development is located within the RPROZ which is typically characterised by expansive pastural areas, associated residential dwellings and ancillary farm buildings, varying topography and indigenous and exotic areas of mature planting. The proposal involves establishing 17 new exclusive use areas for papakāinga housing that will accommodate a maximum of two residential units, being a combination of 1 x Whānau Kainga (4-bedroom unit) and 1 x Kaumātua / Kuia Kāinga or 2 x Kaumātua / Kuia Kāinga allowing up to 34 new residential units that will comply with all bulk and locations controls for impervious surfaces, building coverage, building heights, external boundary setbacks, and recession planes. The exclusive use areas have been designed to each be, at a minimum, 3,000m², to establish a development pattern that is akin to the papakāinga development that could be established under controlled activity rule 8.6.5.2.2.

While the proposed residential density complies with the maximum number of dwellings per hectare when factoring the entire 688.9ha site, it is recognised that it is necessary to consider the proposed clustered configuration of dwellings onsite in relation to its effects on the surrounding environment and existing character and amenity.

The proposed layout has been developed with consideration of a number of factors, including ecological impact, preservation of the farm's productive capacity and achieving the Applicant's desires in terms of how papakāinga housing can best meet the needs of their whānau and hapōri (people and community). The configuration of dwellings on site achieves the intended purpose in terms of fostering interactions between neighbouring residents / whānau and is in keeping with traditional papakāinga principles of multi-generational communities where young and old interact and look after one another.

The layout of exclusive use areas has been carefully considered to respond to the surrounding environment. The exclusive use areas proposed within stages 2 and 3 are positioned to lead away from the road reserve, being located behind one another reducing the interface of residential curtilage with the State Highway boundary. Proposed exclusive use area site 3 is setback from the State Highway boundary by an existing wetland and vegetation and the stage 4 exclusive use areas are well setback from the road being located on opposite side of the Whawharu Stream ensuring that the open qualities of the rural landscape are retained.

The proposed protection of wetlands and enhancement planting creates separation between clusters of exclusive use areas, enhancing visual amenity and contributing to a cohesive interface between the built form and the surrounding rural environment.

With respect to intensity of built form, ĀKAU have prepared an extensive architectural package (refer to **Appendix 3**) with elevations demonstrating the view of the proposed papakāinga from the State Highway Road reserve. The typologies proposed within exclusive use Sites 01 – 05 are a combination of 138m² Four Bedroom and 65m² one-bedroom units to provide for housing of both whānau and kaumātua / kuia. As is common within papakāinga living, there is a need to provide for multi-generational housing which in this case has been provided for via dedicated kaumātua / kuia units that are standalone or are associated with a larger four-bedroom home.

Building typologies have been architecturally designed including gabled roofs and generous areas of glazing, contributing visual interest to the built form while maintaining a form that is in keeping with traditional rural dwellings.

The development has been designed to minimise building intensity by being single storey in height and utilising smaller building footprints (65m² one-bedroom units or 138m² four-bedroom units). This approach ensures that the overall built form appropriately managed, easing any perception of dominance or overdevelopment within the rural setting.

This placement of buildings, combined with the natural features of the site, allows for a development that respects the existing character while providing for papakāinga housing needs in a manner that is visually and physically cohesive with its surroundings.

It is noted that the proposed dwellings fully comply with all permitted activity bulk and location requirements with respect to external boundaries. Additionally, a set of more restrictive development standards have been offered via conditions of consent (refer to **Appendix 2**) to ensure that the future development of exclusive use areas maintain visual amenity, manages the interface between built form and does not view as over developed from the wider environment.

The proposal will result in an increase in traffic intensity from the site, which will affect rural amenity and character, and the following comments are made

- The papakāinga development is proposed to accommodate residents across a range of ages, including elderly and young families. The varying ages of people residing onsite may reduce the number of vehicle movements typically anticipated from a development of this scale; and
- Visually, the traffic intensity factor is unlikely to be discernible, with the exception of cars entering and exiting the site. This is because there is ample space for carparking within the site with all manoeuvring being achieved within the site's boundaries.

Taking the above into account the proposal is considered to have less than minor adverse effects on the amenity and rural character on the surrounding and wider environment.

6.4.2 Transportation

A Traffic Impact Assessment (TIA) has been prepared by Engineering Outcomes and is included as **Appendix 5**. The TIA includes a full analysis of the proposed design specifications and layout against the FNDC and FNDC's Engineering Standards. Given no subdivision is sought, centrally located private accessways are proposed to service the papakāinga housing units, with separate access, driveways, parking and manoeuvring for each exclusive use area proposed from the central accessways. Private access to each exclusive use area will be established at the time of building consent.

The proposed papakāinga will be accessed from State Highway 12 (SH12). The TIA has measured the (85 percentile) operating speed on SH12 at the access locations at 106km/h eastbound and a 90km/h westbound, compared with the speed limit of 100km/h. The complying sightlines for the proposed vehicle crossings onto SH12 proposed for Stages 1 – 3 encroach outside the road reserve, but only over the subject site. The complying sightlines for the proposed vehicle crossing for Stage 4 (Development Area 04) overlaps with the adjacent properties boundary at 2795 State Highway 12 (south) and 2859 SH12 (north). The TIA considers this acceptable as the property boundary for 2795 SH12 is situated within the road reserve and therefore, while the sightline overlaps the legal boundary, it meets the full SISD standard. With regard to the southern sightline, the TIA considers the available sight distance to be more than the SISD.

Each exclusive use area will provide sufficient area, parking and manoeuvring space to service proposed and future residential units. Whilst internal access does not comply with the permitted

ODP standards, it has been designed to fit with the rural context and provide safe and efficient access appropriate for the level of use anticipated from the papakāinga development.

In terms of traffic generation, the FNDP includes Traffic Intensity Factors and applies 30 one-way traffic movements within the RPOZ when accessed via State Highway as a permitted activity. Appendix 3A of the FNDP allocates 10 one-way movements to a standard residential unit, 5 one-way movements per papakāinga dwelling and 2 one-way movements per kuia/kaumātua dwelling. There are 5 existing residential units and 9 existing papakāinga units and this proposal will result in approximately 15 papakāinga dwellings plus 19 kuia/kaumātua dwellings being 109 one-way movements. Based upon existing and proposed development, Appendix 3A calculates 204 one-way traffic movements for the site. In estimating traffic generation for the proposal, the TIA notes that:

“Traffic generation will also generally be lower from papakāinga housing because the kaupapa of these developments generally includes greater self-sufficiency and community cooperation including ride-sharing. The average traffic generation rate for each pair of dwellings in this papakāinga is conservatively estimated at 6 movements per dwelling pair per day”.

Subject to the appropriate access design with the State Highway and maintenance of sightlines it is considered that the proposed traffic movements will not result in adverse effect to the safe and efficient operation of State Highway 12. As such, the TIA has estimated the traffic generation of existing and proposed development to be a total of 118 from the following areas:

- Development Area 02 (Sites 00 – 02) = 18 one-way movements per day;
- Bull Paddock (Sites 03 – 12) = 60 one-way movements per day; and
- Development Area 04 (Sites 13 – 17) = 40 one-way movements per day.

Three-quarters of the generated traffic is expected to travel to/from the east toward Kaikohe, as the nearest main centre. The traffic on this part of SH12 is estimated in Mobile Road at close to 1,700 movements per day, with traffic movements estimated to travel past the site to be between 1,300 – 1,400 movements per day.

Overall, it is recognised that the proposal will result in increased traffic generation in relation to traffic intensity factor, but that there are sufficient mitigating factors that mean the effects will be less than minor. Importantly, it will not compromise the safety and function the road network.

6.4.3 Natural Hazards

Ground conditions and slope stability was assessed by RS Eng Ltd via a Geotechnical Report provided as **Appendix 7**. The geotechnical investigations, including field surveys, drilling 20 hand augers and Dynamic Cone (Scala) Penetrometer testing prior to confirming the proposal to confirm the site was suitable for development. RS Eng Ltd considers that when considering the gentle slopes available and subsoil conditions observed the land as being at a low risk of slope instability. Additionally, RS Eng Ltd considers the risk of liquefaction to be low and that timber pile foundations will be suitable for the proposed papakāinga development provided they are specifically designed to account for expansive soils.

As noted in section 4.4.1 above RS Eng Ltd undertook a specific flood model and assessment for the site at Section 4 of their Civil Suitability Report (refer to **Appendix 6**). The flood modelling identified several shallow overland flow paths separate to the main flows from the Whawharu Stream. In addition to the proposed civil design strategy, the Site Suitability Report recommends

that all dwellings should be constructed to maintain a 500mm freeboard above existing ground levels is suitable. As such, a condition of consent requiring appropriate finished floor levels has been offered within set of proposed conditions included as **Appendix 2**.

Overall, natural hazards including site stability, flooding, and fire risk are considered to be appropriately accounted for with appropriate design solutions proposed to ensure the effects of natural hazards are considered to be less than minor.

6.4.4 Earthworks and Construction Effects

The proposal involves 1,025m³ cut and 235m³ fill across an area of 4,980m² to primarily from the private accessways, parking and manoeuvring areas for the papakāinga units. The majority of earthworks proposed will be at depths and filling of no more than 1.4m. The overall earthworks design for the proposal seeks to follow the natural contour of the landform. During construction, it is proposed to install temporary sediment and erosion control measures to mitigate any potential adverse environmental effects as a result of the proposed land disturbance. Any adverse construction effects on the wider environment are considered to be less than minor as:

- It is anticipated that the construction works will be able to comply with the FNDP's noise standards having regard to the nature of the proposal. It is considered that any adverse effects associated with noise would be temporary in nature, and are considered to be less than minor;
- It is anticipated that earthworks and construction will be carried out during standard construction hours, such that any adverse lighting effects on the wider environment are not anticipated;
- There is sufficient space on the subject site to provide parking for construction vehicles. It is considered that any adverse construction traffic effects will be temporary and able to be appropriately managed;
- The proposed earthworks have been designed in regard to the site topography to result in a minimal extent of works. As such, it is considered the earthworks will be able to be managed in such a way that they do not give rise to any stability effects;
- All earthworks are proposed outside of the minimum 10m setback distance from the identified natural inland wetlands, and have been reviewed as part of the Ecological Report prepared by Bay Ecology Ltd provided as **Appendix 8**. The ecological assessment considers that appropriate erosion and sediment control measures are proposed to manage any potential adverse effects on the wetland.
- An accidental discovery protocol will be followed; and
- The Civil Suitability Report (refer to **Appendix 6**) has taken into account the modelled flood hazards and earthworks will be undertaken in accordance with the Geotechnical Report (refer to **Appendix 7**). As such it is considered that no natural hazard will be exacerbated by the works.

Taking into account the temporal nature of the effects, proposed mitigation measures, it is considered that the proposed earthworks will be adequately managed to a level that is less than minor and acceptable.

6.4.5 Onsite Servicing

The provision of infrastructure to service the development has been considered in the Civil Suitability Report prepared by RS Eng Ltd (refer to **Appendix 6**). Their report and drawings confirm that the proposal can be adequately serviced.

In particular:

- **Stormwater Management:** Stormwater will be managed through grass-lined swale drains, dispersal structures, roadside drains, or stable watercourses where feasible. RS Eng Ltd confirm that the effect to neighbouring properties from the potential increase in stormwater runoff from the development are considered insignificant;
- **Wastewater Disposal:** Each exclusive use area can accommodate wastewater disposal fields that meet the Proposed Northland Regional Plan permitted activity requirements, as demonstrated on the plans within **Appendix 6**. Due to the extent of onsite disposal proposed across the entire papakāinga a separate regional consent has been sought; and
- **Potable and Firefighting Water Supply:** Potable water will be provided via individual onsite tanks for each exclusive use area, with communal tanks for firefighting purposes being established with each development area.

Having regard to the above, it is considered that the proposed development can be adequately serviced and measures provided will ensure that any potential adverse effects are acceptable.

6.4.6 Productive Capacity, Fragmentation and Reverse Sensitivity Effects

The subject site is mapped as a mix of LUC 3, 4 and 6 soils and according to the National Policy Statement for Highly Productive Land (**NPS-HPL**) class 3 soils are identified as “Highly Productive Land”.

The proposed papakāinga will be located within LUC 4 and in some portions LUC 3 soils, effectively limiting the extent to which the residential activity will adversely affect the use of the Highly Productive Land. Careful location of the proposed exclusive use areas and kāinga being nestled between existing kāinga, clustered at the edge of the productive land and to maximise the spaces between wetlands further reducing interface with the productive land. The wider site is utilised as a productive farm and this will continue to operate and maximise the productivity of the rural land, the existing farming and residential activities are co-located without reverse sensitivity effects. Potential fragmentation effects are considered to be adequately accounted by focussing development within a localised areas.

In regard to reverse sensitivity, it is noted that the immediate surrounding area consists of rural residential properties and bush areas. Workable farmland is primarily located within the wider extent of the subject site and is managed by the applicant. Given this context, the proposed papakāinga is considered appropriate in relation to the existing land uses in the wider area.

Taking account of the factors outlined above, adverse effects on productive capacity, fragmentation and reverse sensitivity are considered to be no more than minor.

6.4.7 Ecological Effects

An ecological assessment has been undertaken by Bay Ecological Consultancy Ltd and is enclosed as **Appendix 7**. Bay Ecological Consultancy undertook desktop analysis and site investigations to

Identify and record any watercourses, natural inland wetlands and other ecological features within the site. Watercourses were classified in accordance with the Proposed Regional Plan for Northland with wetlands delineated and assessed in accordance with the National Policy Statement for Freshwater Management 2022 (**NPS-FM**). Indigenous vegetation was assessed in accordance with Appendix 5 of the Regional Policy Statement for Northland 2026 (**RPS**).

Figures 11 and 12 below summarise the identified wetland features in proximity to the proposed papakāinga, wetland areas A, B, C, G and H lie outside of the development footprint and are not considered to be impacted by the proposal. The Northern Mataraua Forest Protected Natural Area (006/002) is located to the east of the proposed papakāinga and will not experience any interface with the proposal. A puriri/kahikatea stand is located adjacent to the Whawharu Stream to be protected within stage 2 of the proposal.

A summary of the ecological values associated with the ecological features are summarised in Tables 5 and 6 of the Bay Ecological Consultancy report. The proposal is assessed as having a **low - moderate** ecological value. As such, the wetlands are assessed as significant in accordance with Appendix 5 of the RPS.

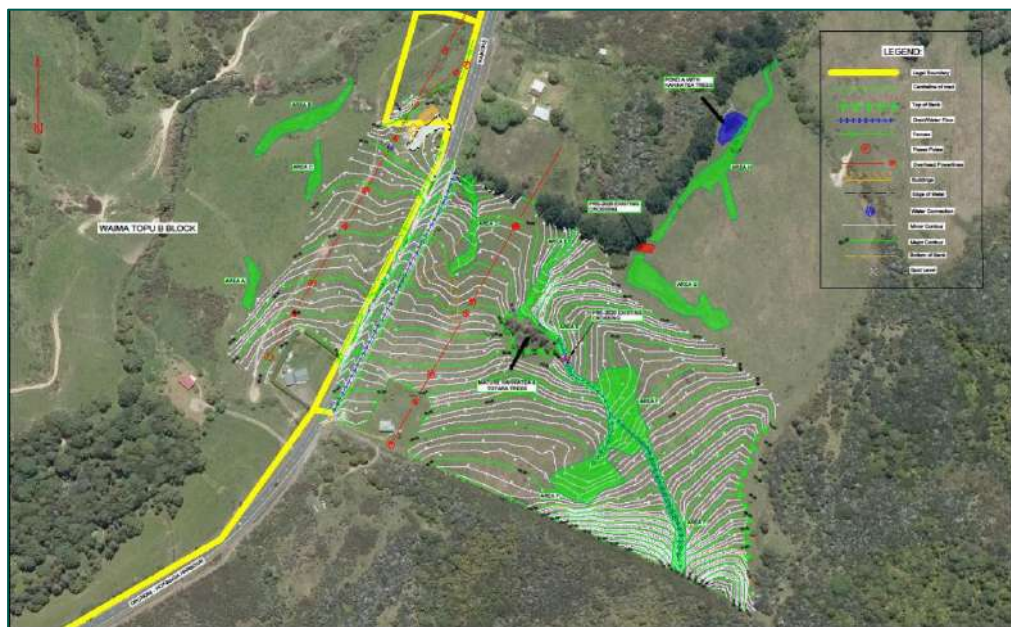


Figure 11: Identified wetlands (refer to Appendix 8)

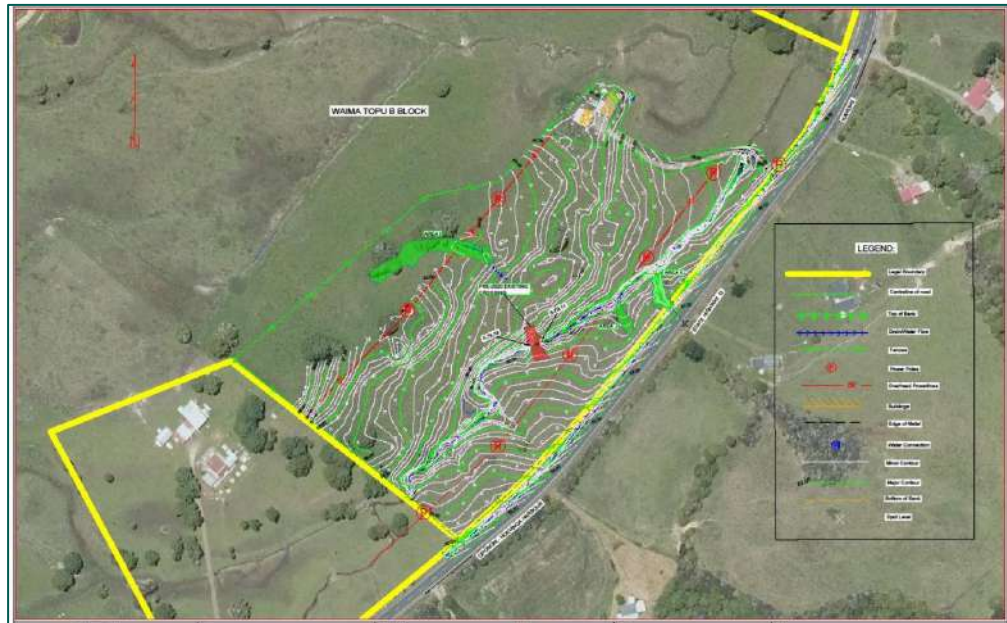


Figure 12: Identified wetlands (refer to Appendix 8)

A small amount of disturbance is proposed to replace an existing culvert within Stage 2 of the proposal and install a new culvert within Stage 3 to accommodate the proposed private accessway. This area has been conservatively calculated to be between 30 – 50m³, which is well below the RPR's 50m³ threshold.

The site layout, civil infrastructure strategy and landscaping plan has been informed in an iterative matter by the ecological advice of Bay Ecological Consultants. As shown in the architectural, civil and landscape plans, all buildings and impermeable surfaces are setback from wetland area's by more than 15m or more. All wetlands located within the papakāinga's development area will be protected and enhanced with planted riparian buffers. Bay Ecological Consultants recommend a staged Revegetation, Pest & Weed Management Plan be required via conditions of consent, ensuring appropriate indigenous species are planted to enhance the ecological features.

The proposed development focuses on areas that have been historically cleared and thus will reduce impact on areas of ecological significance. Furthermore, the activity presents an opportunity for the landowners to be more actively engaged in the protection and enhancement of ecological areas on the site with residents residing so nearby. The Ecological Report identifies management actions to mitigate potential effects, including implementation of pest animal control, protection and enhancement of wetlands and the kahikatea stand etc which will form part of conditions of consent.

With respect to hydraulic neutrality of the wetland features, Bay Ecological Consultancy considers the proposed stormwater arrangements will have an overall low effect with mitigation measures in place. No earthworks for the construction and management of the network will take place within a 10m setback of the natural inland wetlands on site. Sediment and erosion control implemented during construction will further mitigate potential effect to wetlands and streams.

Overall, the proposal is considered to have appropriately accounted for the ecological features present within the site and has been designed to ensure these ecological values present at the site will be maintained and enhanced. Adverse effects on ecological values are considered to be negligible – less than minor.

6.4.8 Māori Cultural Values

The proposed papakāinga is not located within an area or site identified within the FNDP or PDP as being a site of significance to Māori. No registered archaeological sites are identified within this locality.

Waimā Topu B has undertaken a master planning exercise, facilitated by Ākau to capture the values and aspirations of whānau and landowners. The papakāinga housing is proposed for the purposes of enabling whānau members to return and connect to their ancestral land, and as such is considered to strengthen whānau's relationship and values to the site.

On this basis, there are no known adverse effects on Māori cultural values that are considered to arise from this proposal.

6.4.9 Cumulative Effects

It is considered that the proposed papakāinga development will not tip the balance in terms of the cumulative effects of non-compliances associated with the proposed residential development to a point where the existing amenity and character of the locality will fundamentally change for the following reasons:

- The RPROZ provides for a residential intensity at a density of one unit per 12ha where each unit maintains a minimum exclusive use area of 3,000m² around each respective unit. In this instance, all proposed sites maintain the relevant exclusive use areas, with the 11.7ha balance provided elsewhere within the site. While it is noted that two residential units per exclusive use area is sought these units will be small in scale and used by the same whānau. Irrespective of this, the 688.89ha site and clustered papakāinga development is considered to be appropriate in the context of a papakāinga development, in line with traditional papakāinga design principles;
- The proposed onsite infrastructure arrangements are considered to adequately service the development to manage potential adverse effects associated with the proposal;
- Each papakāinga unit will be sufficiently serviced by safe and efficient access and provided with ample parking areas;
- The ecological integrity, functionality and values of the site will be maintained and enhanced; and
- Access and private accessways for the proposal are sufficiently designed to accommodate the proposed activity, while traffic generation from the papakāinga development can be adequately accommodated by State Highway 12.

6.5 Summary of Effects

Overall, it is considered that any adverse effects on the environment relating to this proposal will be less than minor.

6.6 Public Notification Conclusion

Having undertaken the section 95A public notification tests, the following conclusions are reached:

- Under step 1, public notification is not mandatory;

- Under step 2, public notification is not precluded;
- Under step 3, public notification is not required as it is considered that the activity will result in less than minor adverse effects; and
- Under step 4, there are no special circumstances.

Therefore, based on the conclusions reached under steps 3 and 4, it is recommended that this application be processed without public notification.

7.0 Limited Notification Assessment (Sections 95B, 95E to 95G)

7.1 Assessment of Steps 1 to 4 (Sections 95B)

If the application is not publicly notified under section 95A, the council must follow the steps set out in section 95B to determine whether to limited notify the application. These steps are addressed in the statutory order below.

7.1.1 Step 1: Certain affected protected customary rights groups must be notified

Step 1 requires limited notification where there are any affected protected customary rights groups or customary marine title groups; or affected persons under a statutory acknowledgement affecting the land (being on land, or adjacent to land, that is subject to a statutory acknowledgement area).

The above does not apply to this proposal.

7.1.2 Step 2: If not required by step 1, limited notification precluded in certain circumstances

Step 2 describes that limited notification is precluded where all applicable rules and national environmental standards preclude limited notification; or the application is for a controlled activity (other than the subdivision of land).

In this case, the applicable rules do not preclude limited notification and the proposal is not a controlled activity. Therefore, limited notification is not precluded.

7.1.3 Step 3: If not precluded by step 2, certain other affected persons must be notified

Step 3 requires that, where limited notification is not precluded under step 2 above, a determination must be made as to whether any of the following persons are affected persons:

- In the case of a boundary activity, an owner of an allotment with an infringed boundary;
- In the case of any other activity, a person affected in accordance with s95E.

The application is not for a boundary activity, and therefore an assessment in accordance with section 95E is required and is set out below.

Overall, it is considered that any adverse effects on persons will be less than minor, and accordingly, that no persons are adversely affected.

7.1.4 Step 4: Further notification in special circumstances

In addition to the findings of the previous steps, the council is also required to determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined as eligible for limited notification.

In this instance, having regard to the assessment in section 6.1.4 above, it is considered that special circumstances do not apply.

7.2 Section 95E Statutory Matters

If the application is not publicly notified, a council must decide if there are any affected persons and give limited notification to those persons. A person is affected if the effects of the activity on that person are minor or more than minor (but not less than minor).

In deciding who is an affected person under section 95E:

- Adverse effects permitted by a rule in a plan or national environmental standard (the 'permitted baseline') may be disregarded;
- Only those effects that relate to a matter of control or discretion can be considered (in the case of controlled or restricted discretionary activities); and
- The adverse effects on those persons who have provided their written approval must be disregarded.

These matters were addressed in section 6.2 above, and no written approvals have been obtained.

Having regard to the above provisions, an assessment is provided below.

7.3 Assessment of Effects on Persons

Adverse effects in relation to amenity and reverse sensitivity on persons are considered below.

Wider effects, such as rural character, amenity and building intensity, transportation, natural hazards, earthworks and construction, onsite servicing, productive capacity, fragmentation and reverse sensitivity, ecology and biodiversity, Māori cultural values; and cumulative effects were considered in section 6.4 above, and considered to be less than minor.

7.3.1 Persons at 2981 State Highway 12



Figure 13: 2981 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent property at 2981 State Highway 12 is located to the north of Stage 1 of the proposed papakāinga and is surrounded to the west by the wider productive farm, as illustrated in **Figure 13** above. The property currently contains residential activities with an existing dwelling that is to be relocated onto the subject site (exclusive use area Site 00) under existing approvals (refer to **Appendix 4**) as described in section 4.0 above.

This property will experience a change in character to the south with the introduction of the papakāinga. Proposed exclusive use areas and kāinga extend south from the boundary of this property (including the exclusive use area for the relocated kāinga) running parallel to State Highway 12. It is considered that the proposal will not result in adverse effects to the amenity of this property for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated from the site to avoid loss of privacy, sunlight and avoid any dominance of the property; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties/property will be less than minor.

7.3.2 Persons at 2984 State Highway 12



Figure 14: 2984 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent property at 2984 State Highway 12 is located to the north of Stages 1 and 2 of the proposed papakāinga and is surrounded to the east by the wider productive farm, as illustrated in **Figure 13** above. The property currently contains residential activities located centrally within the property.

This property will experience a change in character to the south with the introduction of the papakāinga. Proposed exclusive use areas and kāinga are located south of this property. It is considered that the proposal will not result in adverse effects to the amenity of this property for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated at the boundary interface to avoid loss of privacy, sunlight and avoid any dominance of the property;
- Existing boundary vegetation, wetlands and proposed riparian planting will afford separation between the property and the papakāinga; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties/property will be less than minor.

7.3.3 Persons at 2900 State Highway 12

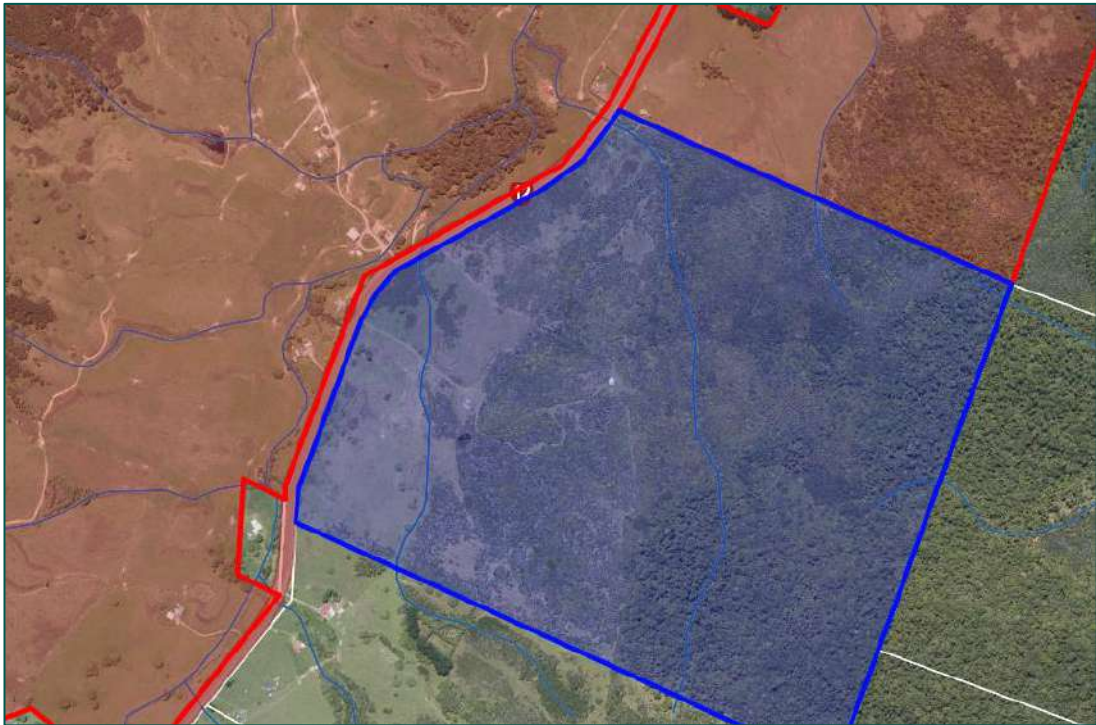


Figure 15: 2900 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent property at 2900 State Highway 12 is located to the south of Stages 1 and 2 and east of Stage 3 of the proposed papakāinga. This is a large property containing a mix of farming pasture, residential activities and large tracts of indigenous vegetation.

This property will experience a change in character to the north with the introduction of the papakāinga. Proposed exclusive use areas and kāinga within Stages 1 and 2 are proposed at the northern boundary of this property with the exclusive use areas of Stage 3 separated from this property by State Highway 12 and the Whawharu Stream. It is considered that the proposal will not result in adverse effects to the amenity and reverse sensitivity of this property for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated from the site to avoid loss of privacy, sunlight and avoid any dominance of the property;
- Proposed residential activities are well separated from the existing productive pastures of this property, by existing vegetation at the site boundary, State Highway 12 and Whawharu Stream;
- Existing boundary vegetation, wetlands and proposed riparian planting will afford separation between the property and the papakāinga; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties/property will be less than minor.

7.3.4 Persons at 2859 State Highway 12



Figure 16: 2859 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent property at 2959 State Highway 12 is located to the south of Stage 1 and north of Stage 3 of the proposed papakāinga and is surrounded to the west by the wider productive farm, as illustrated in **Figure 13** above. The property currently contains residential activities centrally located. This property will experience a change in character with the introduction of the papakāinga. Proposed exclusive use areas of Stage 3 are separated from this property by an existing kāinga within the subject site. It is considered that the proposal will not result in adverse effects to the amenity of this property for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated from the site to avoid loss of privacy, sunlight and avoid any dominance of the property; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties/property will be less than minor.

7.3.5 Persons at 2848 State Highway 12 and 2818 State Highway 12

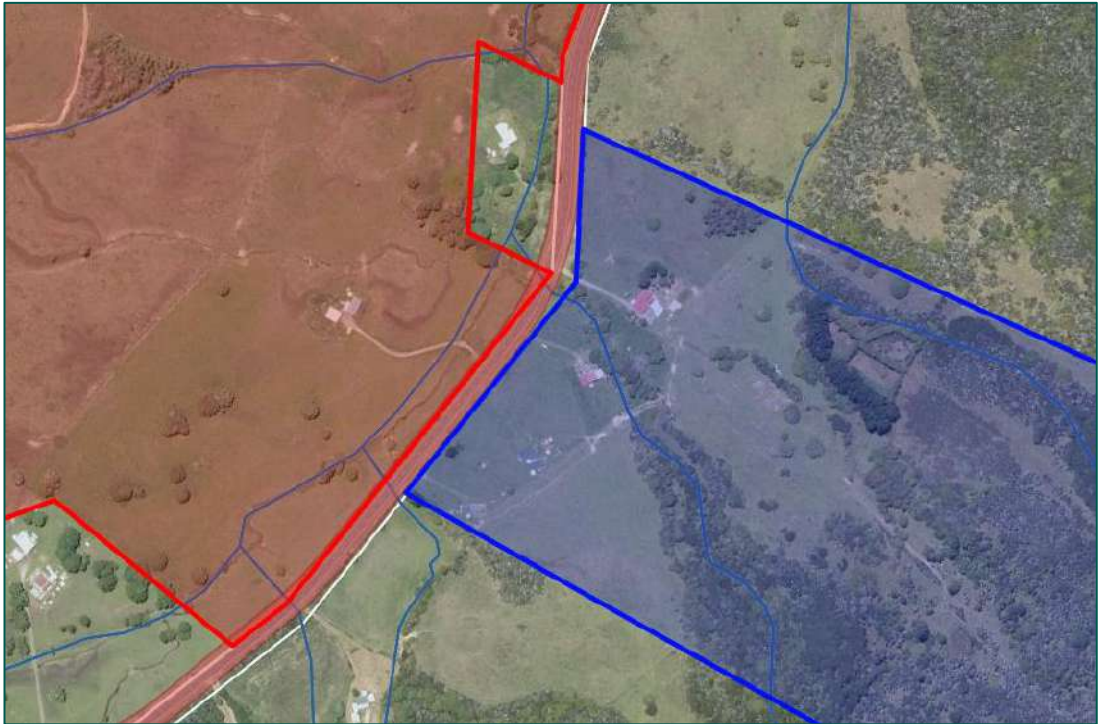


Figure 17: 2848 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.



Figure 18: 2818 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent properties at 2848 and 2818 State Highway 12 are located to the east of Stage 3 of the proposed papakāinga. These are large properties containing a mix of farming pasture, residential activities and large tracts of indigenous vegetation. These properties will experience a

change in character to the east with the introduction of the papakāinga. The proposed exclusive use areas of Stage 3 are separated from these properties by State Highway 12 and the Whawharu Stream. It is considered that the proposal will not result in adverse effects to the amenity and reverse sensitivity of these properties for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated from the site to avoid loss of privacy, sunlight and avoid any dominance of these properties;
- Proposed residential activities are well separated from the existing productive pastures of these properties by State Highway 12, Whawharu Stream and proposed riparian planting; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties will be less than minor.

7.3.6 Persons at 2795 State Highway 12

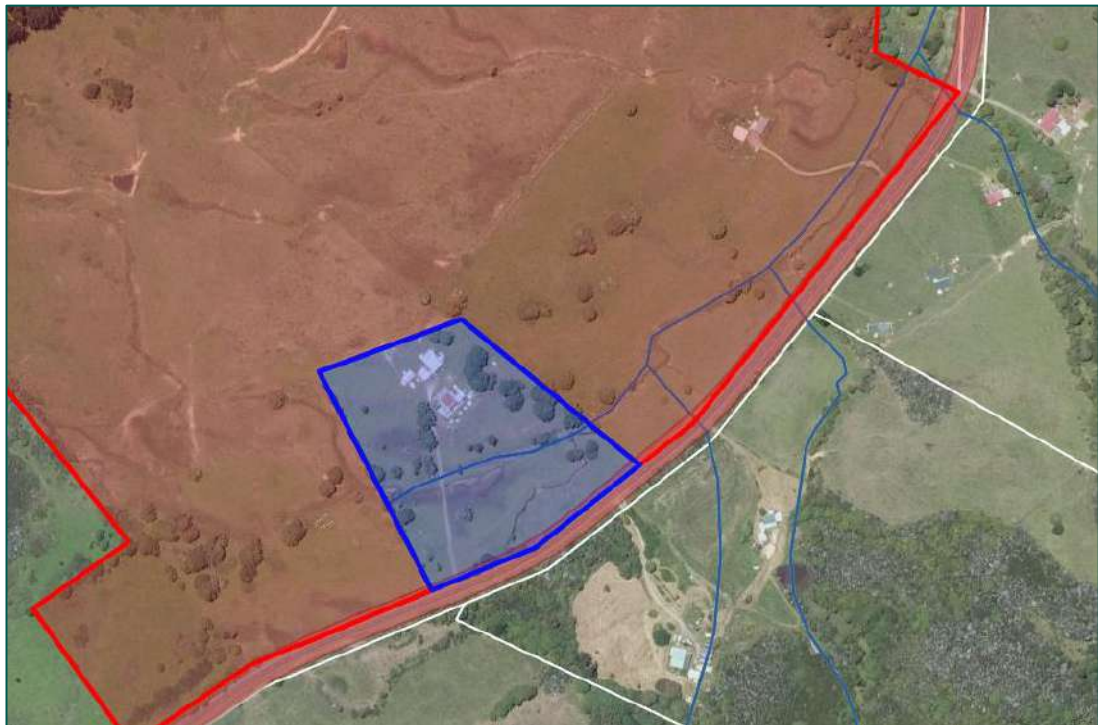


Figure 19: 2795 State Highway 12 (Blue) in Relation to the Subject site (Red) and Development Areas. Source: CoreLogic Emap.

The adjacent property at 2795 State Highway 12 is located to the south of Stage 3 of the proposed papakāinga and is surrounded to the west by the wider productive farm, as illustrated in **Figure 13** above. The property currently contains residential activities located to the western edge of the property. This property will experience a change in character with the introduction of the papakāinga. Proposed exclusive use areas of Stage 3 will extend to the north aligned with the existing built form within this property. It is considered that the proposal will not result in adverse effects to the amenity of this property for the following reasons:

- The residential intensity of the proposed papakāinga is consistent with that anticipated and provided for in the Zone;
- The proposed buildings will be sufficiently separated from the site to avoid loss of privacy, sunlight and avoid any dominance of the property; and
- Potential increase in traffic will be managed by way of access design, maintenance of sightlines and majority of traffic will travel south to Kaikohe.

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties/property will be less than minor.

7.3.7 Summary of Effects

Taking the above into account, it is considered that any adverse effects on persons at the aforementioned properties will be less than minor in relation to amenity and reverse sensitivity effects. Wider effects, including rural character, amenity, building intensity, transportation, natural hazards, earthworks and construction, onsite servicing, productive capacity, fragmentation and reverse sensitivity, ecological and biodiversity, Māori cultural values and cumulative effects were assessed in section 6.4 above and are considered to be less than minor.

It is considered, therefore, that there are no adversely affected persons in relation to this proposal.

7.4 Limited Notification Conclusion

Having undertaken the section 95B limited notification tests, the following conclusions are reached:

- Under step 1, limited notification is not mandatory;
- Under step 2, limited notification is not precluded;
- Under step 3, limited notification is not required as it is considered that the activity will not result in any adversely affected persons; and
- Under step 4, there are no special circumstances.

Therefore, it is recommended that this application be processed without limited notification.

8.0 Consideration of Applications (Section 104)

8.1 Statutory Matters

Subject to Part 2 of the Act, when considering an application for resource consent and any submissions received, a council must, in accordance with section 104(1) of the Act have regard to:

- Any actual and potential effects on the environment of allowing the activity;
- Any relevant provisions of a national environmental standard, other regulations, national policy statement, a New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement; a plan or proposed plan; and
- Any other matter a council considers relevant and reasonably necessary to determine the application.

As a discretionary activity, section 104B of the Act states that a council:

- (a) may grant or refuse the application; and
- (b) if it grants the application, may impose conditions under section 108.

8.2 Weighting of Proposed Plan Changes: Far North Proposed District Plan

The Far North Proposed District Plan (PDP) is currently progressing through the Hearings Process. These are anticipated to extend until September 2025 before moving to a Decision.

It is considered that the proposal can be predominantly assessed against the Far North Operative District Plan (ODP) provisions. There are some provisions of the PDP which have immediate legal effect, including Earthworks, Indigenous Biodiversity and Historical and Cultural Values, the proposal will comply with all permitted activity rules that have immediate legal effect.

Under the PDP, the site is proposed to be zoned Māori Purpose - Rural. An assessment of the proposal against the relevant FNDP and PDP objectives and policies is provided below. It is considered that different outcomes would arise between the two plan versions. However, as the PDP is still going through the hearings process and no decisions have been issued, it is generally considered that greater weight should be given to the FNDP provisions.

9.0 Effects on the Environment (Section 104(1)(A))

Having regard to the actual and potential effects on the environment of the activity resulting from the proposal, it was concluded in the assessment above that any wider adverse effects relating to the proposal will be less than minor and that no persons would be adversely affected by the proposal.

Further, it is considered that the proposal will also result in positive effects including:

- Enables whānau to re-establish connection with their whenua and provide for the social, economic and cultural needs of their community;
- Ecological enhancement of ecological features within the site, including historically degraded natural inland wetlands through implementation of enhancement planting and on-going protection;
- The provision of quality housing that is intended to enable Te Mahurehure and Ngāti Pakau hapū, shareholders and beneficiaries of Waimā Topu B to live and work within their hāpori / community; and
- A well-considered papakāinga development that accords with the objectives and policies of the FNDP.

Overall, it is considered that the proposal will have positive effects, and any actual and potential adverse effects on the environment of allowing the activity are less than minor.

10.0 District Plan and Statutory Documents (Section 104(1)(B))

10.1 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (**NPS-FM**) replaced the NPS-FM 2014 and came into effect on 3 August 2020.

The NPS-FM includes one objective as follows:

- “(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:*
- (a) first, the health and well-being of water bodies and freshwater ecosystems*
 - (b) second, the health needs of people (such as drinking water)*
 - (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.”*

This objective seeks to manage natural and physical resources through setting a clear hierarchy for which the resources should be managed. Specifically, it seeks to prioritise the health and wellbeing of water bodies and freshwater ecosystems over all other matters.

The proposal has appropriately considered these matters through the assessment and classification of all watercourses within the site boundaries. Within the development site, a number of natural inland wetlands have been identified and delineated to ensure the proposal accounts for its long-term protection. The proposed papakāinga development has been designed to nestle around existing streams and wetland features within the subject site, the wetlands and Whawharu Stream, providing for the whanau to re-establish connection with their whenua and provide for the social, economic and cultural needs of their community.

10.1.1 2.2 Policies

The NPS-FM includes 15 policies that seek manage freshwater in a way that give effect to Te Mana o Te Wai. Of particular relevance to this proposal is Policy 6 which seeks:

“Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.”

An ecological assessment has been prepared by Bay Ecological Consultancy Ltd and is enclosed as **Appendix 8**. The ecological assessment included the identification and classification of all watercourse within the development site confirming that there are two natural inland wetlands identified within the papakāinga extent. As set out in section 5.3 of this report, no earthworks or development is proposed within 10m setback of the identified wetlands and the works proposed within 100m of the wetland are not considered to result in the partial or complete drainage of the natural inland wetland features. The proposal is assessed as a permitted activity under the NPS-FM.

Overall, the proposal is considered to accord with the relevant policies of the NPS-FM.

10.2 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land 2022 (**NPS-HP**) came into force on 17 October 2022. The NPS-HP seeks to protect highly productive land for use in land-based primary production, for current and future generations.

The NPS-HP defines highly productive land in Part 1.3 as meaning:

“highly productive land means land that has been mapped in accordance with clause 3.4 and is included in an operative regional policy statement as required by clause 3.5 (but see clause 3.5(7) for what is treated as highly productive land before the maps are included in an operative regional policy statement and clause 3.5(6) for when land is rezoned and therefore ceases to be highly productive land).”

As highly productive land is not yet mapped by the Northland Regional Council, clause 3.5(7) is relevant and states:

(7) *Until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that, at the commencement date:*

- a) *Is*
 - i. *zoned general rural or rural production; and*
 - ii. *LUC 1, 2, or 3 land; but*
- b) *is not:*
 - i. *identified for future urban development; or*
 - ii. *subject to a Council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle.*

As previously discussed, the proposed papakāinga will be located within land that is identified as LUC 3.

Objective 2.1 of the NPS-HPL seeks to ensure that Highly Productive Land is protected for use in land-based primary production, both now and for future generations. Policies implement this objective by requiring identification, mapping, and protection of Highly Productive Land. Policies 8 and 9 are particularly relevant to the proposal:

Policy 8: Highly Productive Land is protected from inappropriate use and development.

Policy 9: Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

Clause 3.9 of the NPS-HPL specifies how territorial authorities must achieve these policies. This section lists exemptions to “inappropriate” use of Highly Productive Land, in this case it is considered that the following are relevant to the proposal:

- (c) It is, or is for a purpose associated with, a matter of natural importance under section 6 of the Act.

Comment: The proposal seeks to enable whanau to re-establish their relationship with their ancestral land at Waimā, enhancing their culture and traditions with their ancestral lands and water in accordance with section 6(e).

(d) It is on specified Māori land.

Comment: The proposal seeks to establish papakāinga within Freehold Māori land which accords with the definition of ‘specified Māori land’.

(e) It is for the purpose of protecting, maintaining, restoring or enhancing indigenous biodiversity

Comment: The proposal seeks to protect natural inland wetlands and streams via permanent protection and enhancement of these ecological features.

When applying these exemptions Council must ensure that the development will minimise or mitigate any actual or potential loss of the availability and productive capacity of highly productive land and avoid or otherwise mitigate potential reverse sensitivity effects on land based primary production activities. As previously discussed, the proposed papakāinga has been carefully designed to be located adjacent to existing residential activities and to be nestled within existing natural features onsite, which in turn ensures that the proposal will not result in any loss of the productive capacity of soils within the site and maintains sufficient separation between activities to avoid potential reverse sensitivity effects.

For these reasons it is considered that the proposal will give effect to the objective and relevant policies of the NPS-HPL.

10.3 National Policy Statement – Indigenous Biodiversity

The National Policy Statement for Indigenous Biodiversity (**NPS-IB**) was published by the Minister of the Environment on 7 July 2023 and came into force on 4 August 2023.

The NPS-IB applies to indigenous biodiversity in the terrestrial environment throughout Aotearoa New Zealand. The NPS-IB does not contain rules that apply to the current proposal, rather the relevant objective and policies in Part 2, and further 3.16 (Indigenous Biodiversity outside of SNAs) require consideration at section 104 stage. Therefore, the NPS-IB does apply to the proposal as a higher order planning document that the consent authority is required to “have regard to” pursuant to section 104(1)(b)(iii) of the Resource Management Act 1991 (“RMA”).

Comment: The proposal will not require the clearance of indigenous vegetation or result in a loss of indigenous biodiversity including habitat.

Overall, it is considered that the proposal accords with the relevant provisions of the NPS-IB.

10.4 Northland Regional Policy Statement

The Northland Regional Policy Statement (**RPS**) covers the management of natural and physical resources across the Northland Region. The provisions within the RPS give guidance at a higher planning level in terms of the significant regional issues. As such it does not contain specific rules that trigger the requirement for consent but rather give guidance to consent applications and the development of District Plans on a regional level.

The objectives and policies relevant to the proposal are assessed below.

3.3 Ecological flows and water levels

Maintain flows, flow variability and water levels necessary to safeguard the life supporting capacity, ecosystem processes, indigenous species and the associated ecosystems of freshwater.

3.4 Indigenous ecosystems and biodiversity

Safeguard Northland's ecological integrity by:

- a) Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
- a) Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and*
- b) Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.*

Comment: The proposal will ensure permanent protection and enhancement of all ecological features within the papakāinga development, resulting in the safe guarding of the ecosystem processes, indigenous species and freshwater. The extent and diversity of indigenous ecosystems and habitats will be maintained within the area of the papakāinga. **3.11 Regional form**

Northland has sustainable built environments that effectively integrate infrastructure with subdivision, use and development, and have a sense of place, identity and a range of lifestyle, employment and transport choices.

The proposed has been comprehensively designed to integrate infrastructure, transport and residential development into the natural landform and ecological features onsite. **3.12 Tangata whenua role in decision-making**

Tangata whenua kaitiaki role is recognised and provided for in decision-making over natural and physical resources.

This proposal seeks to enable whānau to live and utilise the natural and physical resources within their whenua. The following policies are considered relevant:

4.4.1 Policy – Maintaining and protecting significant ecological areas and habitats

- (3) Outside the coastal environment and where clause (1) does not apply, avoid, remedy or mitigate adverse effects of subdivision, use and development so they are not significant on any of the following:*
 - a) Areas of predominantly indigenous vegetation;*
 - b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes;*
 - c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including wetlands, dunelands, northern wet heathlands, headwater streams, floodplains and margins of freshwater bodies, spawning and nursery areas.*

Comment: Bay Ecological Consultancy has identified and delineated watercourses, natural inland wetlands and other ecological features within the site. The proposal will ensure that all identified features will be protected and enhanced, mitigating any potential effects from the proposed development. Therefore, the proposal will give effect to this policy.

5.1.1 Policy – Planned and coordinated development

Subdivision, use and development should be located, designed and built in a planned and co-ordinated manner which:

- a) Is guided by the 'Regional Form and Development Guidelines' in Appendix 2;*
- b) Is guided by the 'Regional Urban Design Guidelines' in Appendix 2 when it is urban in nature;*

- c) Recognises and addresses potential cumulative effects of subdivision, use, and development, and is based on sufficient information to allow assessment of the potential long-term effects;
- d) *Is integrated with the development, funding, implementation, and operation of transport, energy, water, waste, and other infrastructure;*
- e) Should not result in incompatible land uses in close proximity and avoids the potential for reverse sensitivity;
- f) Ensures that plan changes and subdivision to / in a primary production zone, do not materially reduce the potential for soil-based primary production on land with highly versatile soils¹⁰, or if they do, the net public benefit exceeds the reduced potential for soil-based primary production activities; and
- g) *Maintains or enhances the sense of place and character of the surrounding environment except where changes are anticipated by approved regional or district council growth strategies and / or district or regional plan provisions.*
- h) Is or will be serviced by necessary infrastructure.

[our emphasis added]

Comment: Particular consideration has been given to 5.1.1(a), (c), (e), (f) and (h) and it is considered that the proposal accords with the relevant directions of these policies. In particular, the proposed development incorporates quality design principles including context, character, choice, connections, creativity custodianship and collaboration. With specific reference to 5.1.1(h) the proposal can be adequately serviced in terms of transportation, water, wastewater, and stormwater by existing and proposed infrastructure as highlighted within the Civil Suitability Report (refer to **Appendix 6**).

With respect to (d), (e) and (f), while the papakāinga development is proposed within the rural environment it is not considered to give rise to land use incompatibility and reverse sensitivity effects. This is achieved through a carefully thought out site layout taking into account the existing activities established within the localised environment. The development is not considered to hinder any productive land uses that could occur on the site.

In addition, the proposed development is considered to be compatible with adjacent predominantly residential land uses and maintains the underlying sense of place and character of the surrounding environment in accordance with the level of development that is anticipated on the subject site in accordance with the expectations in the PDP, thereby satisfying 5.1.1(e) and (g).

For these reasons, it is considered that the proposal is consistent with the relevant RPS provisions.

8.3.2 Policy – Marae and Papakāinga

The regional and district councils shall recognise the historical, cultural, and social importance of marae and papa kāinga, and enable their ongoing use and development in regional and district plans.

Comment: Policy 8.3.2 provides specifically for marae and papakāinga and directs that district and regional councils shall recognise the historical and social importance of papakāinga, and enable their ongoing use and development within their respective plans. The proposal is for papakāinga housing and is considered to be relevant to this policy, and council's are required to recognise and enable such activities.

10.5 Operative Far North District Plan

The FNDP was made operative in part in 2007 and fully operative in 2009. Below is an assessment of the relevant objectives and policies to the proposal.

10.5.1 Chapter 12.2 Indigenous Flora and Fauna

The objectives and policies of Indigenous Flora and Fauna Chapter seek to maintain and enhance the life supporting capacity of ecosystems and the extent and representativeness of the District's indigenous biological diversity, and to provide for the protection of, and to promote the active management of areas of significant indigenous vegetation and significant habitats of indigenous fauna. The proposal will not result in the loss of any indigenous flora and fauna, the proposed landscaping has been designed to enhance the surrounding coastal environment as such the proposal is considered to give effect to these objectives and policies.

10.5.2 Chapter 12.3 Soils & Minerals

Objectives contained in 12.3.3 seeks to manage adverse effects associated with excavation and filling in an integrated manner with the Northland Regional Council. The objectives seek to maintain the life supporting capacity of soils, while ensuring adverse effects are either avoided, remedied or mitigated.

The proposal involves the excavation and filling to establish safe and efficient access, parking and manoeuvring areas and has minimised earthworks to reduce the visual impacts of earthworks. Temporary earthworks effects will be managed through the use of erosion and sediment controls that have been designed in accordance with best practice.

Overall, the proposal is considered to accord with the FNDP objectives for earthworks.

10.5.3 Chapter 12.4 Natural Hazards

The objectives and policies of the natural hazards chapter are contained within Chapter 12.4 of the ODP and seek to reduce the threat of natural hazards to life, property and the environment. Areas of the subject site are identified as flood hazard, however, these are not located within the proposed papakāinga area. Therefore, potential fire risk is the only natural hazard considered to be relevant to the proposal and the following to be applicable:

Objective 12.4.3.7 To avoid fire risk arising from the location of residential units in close proximity to trees, or in areas not near fire services

Policy 12.4.4.7 That the risk to adjoining vegetation and properties arising from fires is avoided.

The proposed development will avoid fire risk arising from the proposed development, because a separation of 12m from the indigenous vegetation will be established for the minor dwelling, the proposed dwellings will be serviced by a dedicated firefighting water supply which can be utilised to mitigate any risk to adjoining vegetation, and Landscape planting has been carefully designed with low fire risk plants being recommended in proximity to the proposed buildings. For these reasons it is considered that the proposal will be consistent with 12.4.3.7 and 12.4.4.7 and the proposal is considered consistent with the intent of the natural hazards chapter.

10.5.4 Chapter 12.5 Heritage

The objectives and policies of the Heritage Chapter seek to:

- protect and retain the heritage values of resources, such values to include those of an archaeological, architectural, cultural, historic, scientific, and technological nature.
- protect waahi tapu and other sites of spiritual, cultural or historical significance to Maori from inappropriate use, development and subdivision.
- protect the notable trees of the District.
- conserve the historic and amenity values of settlements with significant historic character.
- protect the cultural, spiritual, scientific and historic values of archaeological sites from inappropriate use, development and subdivision.
- ensure that subdivision and land use management practices avoid adverse effects on heritage values and resources.

The subject site is not identified as containing heritage sites or areas, or Sites or Areas of Significance or Māori under the FNDP. There are no registered archaeological features within the subject site. The applicant proposes to apply an ADP during construction to ensure on-going management of potential effect to unidentified archaeology. Therefore, it is considered that the proposal will not result in adverse effects on heritage values or resources and the proposal will give effect to these objectives and policies.

12.7 Lakes, Rivers, Wetlands and the Coastline Objectives of this chapter seek to avoid, remedy or mitigate the adverse effects of subdivision, use and development on riparian margins, rivers, lakes and wetlands. Policies implement these objectives by requiring activities to improve or enhance water quality, including by separating activities, riparian planting and fencing. The applicant proposes to protect all streams and wetlands within the papakāinga area, with enhancement riparian planting and fencing giving effect to these objectives and policies.

10.5.5 Part – District-wide Provisions: Chapter 15 – Transportation

15.1.3 objectives seek to minimise the adverse effects of traffic through the provision of appropriate parking, access, and promotes the safe and efficient movement / circulation of vehicles and pedestrians. 15.1.4 policies seek to achieve this by ensuring an appropriate evaluation of the activities is undertaken at the time of development that ensures appropriate provisions of parking and associated matters is undertaken as part of any proposal.

A TIA has been prepared by Engineering Outcomes which concludes that access proposed to the site is safe and efficient and does not compromise the safety and efficiency of State Highway 12. In summary, the proposal is considered to be consistent with Chapter 15 – Transportation.

10.5.6 Chapter 8: Rural Environment – Rural Production Zone

The Objectives of the Rural Production Zone relate to enabling efficient use and development of the Rural Productive Zone, promoting sustainable management of natural and physical resources, avoiding, remedying or mitigating conflicts between land use activities and the adverse effects of incompatible use or development on natural and physical resources and amenity values. Objective 8.6.3.2 seeks to enable the efficient use and development of the Rural Production Zone in a way that enables people and communities to provide for their social, economic and cultural wellbeing.

The proposal achieves Objective 8.6.3.2 by maintaining the productive function of the site while providing housing and community development which provides for the social and cultural wellbeing of tangata whenua and res-establishes connection with their land.

Policy 8.6.4.1 seeks to enable farming and rural production activities as well as a wide range of activities while ensuring that the adverse effects on the environment, including reverse sensitivity effects, are avoided, remedied or mitigated and are not to the detriment of rural productivity. Policy 8.6.4.7 refers to avoiding the actual and potential adverse effects of conflicting land use activities, while Policy 8.6.4.8 refers to providing separation from other activities where adverse effects occur.

The proposal seeks to establish papakāinga development which has been carefully designed in an integrated manner to ensure the maintenance and enhancement of the rural character and amenity of the wider rural environment. The subject site is of an area which could comfortably accommodate the density of residential development proposed as a permitted activity, as such the proposal is of a scale and intensity provided for and enabled within the Rural Production Zone.

The design and location of proposed exclusive use areas and residential units has ensured appropriate separation of activities to avoid conflicting land use and potential reverse sensitivity and the efficient use of land.

With regard to the policies seeking to manage the effects of the proposal, the assessment in Section 6.4 demonstrates that the adverse effects of the proposal will be less than minor. Reverse sensitivity and land use incompatibility effects are not considered to arise, with appropriate mitigation proposed to manage this.

Further, it is noted that the configuration of the development onsite ensures the effect on the productive capacity of the farm is minimised and the proposal is not considered to compromise the function of rural activities in the surrounding environment. The topography of the site, existing vegetation as well as the positioning to neighbouring properties means that adverse on character and amenity are avoided.

Overall, the proposal is considered to be consistent with the anticipated outcomes of the Rural Production Zone.

10.6 Objectives and Policies of the Far North Proposed District Plan

10.6.1 Tangata whenua

The Tangata Whenua chapter of the PDP provides a set of objectives and policies regarding the relationship between tangata whenua and the Council, the protection of cultural heritage, and the enhancement of tangata whenua well-being.

The objectives seek to establish a strong, high-trust partnership between tangata whenua and the Council, ensuring tangata whenua have meaningful opportunities to actively participate as kaitiaki in resource management processes. They aim to protect areas of significance to Māori and cultural resources. The objectives also recognise the importance of maintaining mana whenua in their rohe through enduring connections to culture, ancestral lands, and natural resources. Additionally, they promote the enhancement of tangata whenua economic, social, and cultural well-being through enabling development on Māori land and Treaty settlement land.

The policies give effect to these objectives by promoting collaboration between the Council and tangata whenua through Mana Whakahono ā Rohe agreements and other partnership arrangements. They ensure tangata whenua are provided with opportunities to participate in resource management processes that affect their ancestral land, water, and taonga. The policies emphasise the protection of Māori historic heritage and cultural resources, facilitated through

collaboration with iwi and hapū to identify and schedule significant sites and cultural landscapes. They also seek to enable development on Māori land to support tangata whenua well-being, provided adverse environmental effects are appropriately managed. Furthermore, the policies recognise tangata whenua as specialists of their tikanga, including when assessing resource consent applications.

The proposed papakāinga development is considered to be consistent with these objectives and policies for the following reasons:

- The development will enable tangata whenua to strengthen and maintain their mana whenua within their rohe by supporting the occupation and use of ancestral land;
- The development will contribute to the economic, social, and cultural well-being of tangata whenua by enabling residential land use on Māori Freehold Land administered under Te Ture Whenua Māori Act 1993; and
- The proposal enables the use and development of Māori land to support tangata whenua well-being, while adopting measures to appropriately manage potential adverse environmental effects as set out in sections 6.4 and 7.3 above.

10.6.2 Strategic Direction - Economic and social wellbeing

Objective SD-SP-O2 seeks to develop initiatives that support the wellbeing of tangata whenua, in partnership with iwi and hapū. The proposed development is considered to give effect to this strategic direction, as it is a hapū led proposal providing papakāinga housing for tangata whenua. The development will assist in delivering affordable housing that meets the social and cultural needs of tangata whenua.

10.6.3 Māori Purpose Zone

The objectives and policies of the Māori Purpose zone are set out in MPZ-O1 to MPZ-O3 and MPZ-P1 to MPZ-P4 of the PDP.

The objectives of the Māori Purpose zone seek to ensure the viability of the zone for future generations, while enabling a range of social, cultural, and economic development opportunities that support occupation, use, development and the ongoing relationship with ancestral land. The objectives also seek to ensure that such development is undertaken in a way that reflects the sustainable carrying capacity of both the land and the surrounding environment.

The policies support the objectives by providing for the use and development of ancestral Māori land, with an emphasis on enabling activities such as marae, papakāinga, customary use, and small-scale commercial ventures, provided adverse effects are avoided, remedied, or mitigated. Development is managed to ensure compatibility with surrounding land uses, maintenance of character and amenity values, and adequate servicing by infrastructure. The policies also require consideration of the scale, design, and location of development, along with measures to manage reverse sensitivity effects and natural hazards, and to protect highly productive land, historic heritage, cultural values, and biodiversity.

The proposed papakāinga development is considered to be consistent with these objectives and policies for the following reasons:

- The development supports the ongoing occupation, use, and development of ancestral Māori land;

- It is considered that the proposal will provide affordable housing solutions resulting in positive economic and social effects;
- The proposed location of the papakāinga housing allows for the continued operation of farming activities on the remainder of the site;
- The proposed scale, design, and layout are considered appropriate for the site and surrounding area for the reasons set out in section 6.4.1 above;
- The attached infrastructure report confirms that the development can be appropriately serviced;
- It is considered that State Highway 12 can support the papakāinga development, with section 6.4.1 above assessing that the proposal will have less than minor effects on the surrounding road network, or to the safety of pedestrians and vehicles using the site; and
- Wetland restoration planting is proposed, with an ecological assessment having been prepared which confirms that effects on indigenous biodiversity values will be less than minor.

10.7 Summary

It is considered that the proposed development is generally in accordance with the objectives and policies of the NPS-HPL, NPS-FW, NPS-IB, RPS, FNDP and PDP.

11.0 Part 2 Matters

Section 5 of Part 2 identifies the purpose of the RMA as being the sustainable management of natural and physical resources. This means managing the use, development and protection of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being and health and safety while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Section 6 of the Act sets out a number of matters of national importance including (but not limited to) the protection of outstanding natural features and landscapes and historic heritage from inappropriate subdivision, use and development.

Section 7 identifies a number of “other matters” to be given particular regard by Council and includes (but is not limited to) Kaitiakitanga, the efficient use of natural and physical resources, the maintenance and enhancement of amenity values, and maintenance and enhancement of the quality of the environment.

Section 8 requires Council to take into account the principles of the Treaty of Waitangi.

Overall, as the effects of the proposal are considered to be less than minor, and the proposal accords with the relevant ODP objectives, policies and assessment criteria, it is considered that the proposal will not offend against the general resource management principles set out in Part 2 of the Act.

12.0 Other Matters (Section 104(1)(C))

12.1 Record of Title Interests

The Record of Title for the site are subject to a number of interests (refer **Appendix 1**). None of these are anticipated to affect the resource consent application as discussed in **Table 1** below:

Table 1: Record of Title interests

Interest	Comment
10177178.14 – Forestry Right	Right to undertake forestry within the subject site.
9110084.1 – Notice pursuant to Section 195(2) Climate Change Response Act 2002	<p>Section 195 applies to the notification status of forest land.</p> <p>Clause 2 applies to types of land:</p> <p>The types of land are—</p> <p>(a) the following types of land in respect of which a person is registered as a participant:</p> <p>(i) pre-1990 forest land:</p> <p>(ii) P90 offsetting land:</p> <p>(iii) post-1989 forest land:</p> <p>(b) the following types of post-1989 forest land:</p> <p>(i) P89 offsetting (approved) land (as defined in section 192):</p> <p>(ii) temporary adverse event land:</p> <p>(iii) land for which a person is registered as a participant in permanent forestry:</p> <p>(c) land that the EPA has declared to be exempt land.</p>
6889303.1 – Status Order determining the status of the within land to be Maori Freehold Land.	Confirmation of land status.

12.2 Special Information Requirements

As consent is sought for integrated development under Rule 8.6.5.4.2 a management plan is required. The relevant information for this requirement is set out and discussed in **Table 1** below:

Table 2: Integrated Development Management Plan Requirements

Information Requirement	Comment
<i>A plan showing the location of the property (including property boundaries), topography, adjoining uses, location of the activities proposed in the application, existing vegetation (type and location), drainage patterns, existing and proposed access road/s, location of any outstanding landscapes or natural features, location of any covenanted or otherwise protected areas.</i>	The context and existing site plans provided within the Architectural Drawings prepared by ĀKAU (refer to Appendix 3) provide the required information.

<i>A description of the purpose of the application and the activities which are proposed.</i>	Refer to section 1.0 and 4.0 of this report which details the proposal.
<i>A description of the degree (if any) to which the proposed development will exceed the standards set for permitted, controlled, restricted discretionary and discretionary activities in the zone.</i>	An assessment against the Rural Production Zone standards has been provided as Appendix 9 .
<i>Details of the staging (if any) which is proposed.</i>	Please refer to the construction staging description provided within section 4.2 of this report and the conditions of consent proposed to manage the implementation of the development within Appendix 2 .
<i>A description of any heritage resources on the property.</i>	N/A – No Heritage resources have been identified on site.
<i>Other information which is relevant to any assessment of the effects of the application, is as follows:</i> <ul style="list-style-type: none"> • <i>Details of provisions made for sewage and stormwater disposal and the proposals for avoiding, remedying or mitigating any adverse effects on receiving environments of stormwater flows;</i> • <i>Details of any earthworks;</i> • <i>Details of the geotechnical aspects of the property;</i> • <i>Details of any natural hazard areas and the measures which will be taken to avoid any adverse effects;</i> • <i>Details of the measures (if any) to protect indigenous vegetation and habitats, outstanding landscapes and natural features, heritage resources and riparian margins;</i> • <i>The extent to which areas of open space, reserves, natural vegetation and other amenities are already provided by the land owning group on other whanau and hapu lands in the vicinity.</i> 	<p>A suite of specialist reports have been appended to this application, including:</p> <ul style="list-style-type: none"> • Traffic Impact Assessment; • Civil Suitability Report; • Geotechnical Report; and • Ecological Assessment. <p>Collectively, these reports are considered to provide sufficient detail to understand the various site constraints and how the various elements of the proposal are to be managed in an ongoing manner. The proposed conditions of consent (enclosed at Appendix 2) provide a suitable management framework to ensure future development will be developed in a manner that is appropriate to manage adverse effects to a level that is less than minor and acceptable.</p>
<i>The extent to which the application promotes energy efficiency and renewable energy development and use as provided for in Policy 13.4.15 through incorporating the following initiatives:</i> <ul style="list-style-type: none"> • <i>Development of energy efficient buildings (e.g. by providing a north-facing site with the ability to place a building on an east/west axis);</i> • <i>Reduced travel distances and car usage by designing a layout with as many links to</i> 	The proposed papakāinga layout is considered to allow for energy-efficient buildings through providing a site layout that promotes north-facing orientation. It is also considered to encourage reduced travel due to the communal nature of papakāinga development, with Appendix 5 noting that ride-sharing into Kaikohe is anticipated. Additionally, space is available for renewable energy solutions should whānau wish to implement it.

<p><i>adjacent sites and surrounding roads as practicable;</i></p> <ul style="list-style-type: none"> • <i>Encouragement of pedestrian and cycle use by designing a layout that allows easy direct access to and from, shops, schools, work places, reserves and other amenities;</i> • <i>Access to alternative transport facilities;</i> • <i>Domestic scale renewable energy and/or community renewable energy development;</i> • <i>Solar street lighting.</i> 	
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13.0 Conclusion

The proposal involves a papakāinga development at 2843 State Highway 12, Waimā.

Based on the above report it is considered that:

- Public notification is not required as adverse effects in relation to rural character, amenity and building intensity, transportation, natural hazards, earthworks and construction, onsite servicing, productive capacity, fragmentation and reverse sensitivity, ecology and biodiversity, Māori cultural values; and cumulative effects are considered to be less than minor. There are also positive effects including enabling tangata whenua to re-establish connection with their whenua and provide for the social, economic and cultural needs of their community;
- Limited notification is not required as potential adverse effects arising from the proposal will be appropriately managed to level where no persons are considered adversely affected by the proposal;
- The proposal accords with the relevant FNDP objectives and policies; and
- The proposal is considered to be consistent with Part 2 of the Act.

It is therefore concluded that the proposal satisfies all matters the consent authority is required to assess, and that it can be granted on a non-notified basis.



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy**




R.W. Muir
Registrar-General
of Land

Identifier **NA52B/52**
Land Registration District **North Auckland**
Date Issued 08 April 1982

Prior References
NA52B/48

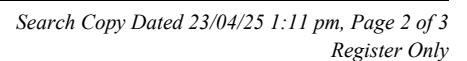
Estate Fee Simple
Area 688.8860 hectares more or less
Legal Description Waima Topu B Block

Registered Owners

Colin Fitzpatrick, Mihi Harris-Brown, Tiopira Desmond Piripi, Steven Raureti Merito, Myles Tait Hemara, James Richard Harding, Hemi (James) Sarich Toia and Jade Baker as responsible trustees jointly, no survivorship

Interests

6889303.1 Status Order determining the status of the within land to be Maori Freehold Land - 1.6.2006 at 9:00 am
9110084.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 2.7.2012 at 11:59 am
10177178.14 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Fortuna Forest Products Limited - 30.10.2015 at 2:29 pm





Report on Maori Land details for the following Record(s) of Title



Record(s) of Title

NA52B/52

Identified as potentially Maori Freehold Land

***** End of Report *****

The following consent conditions are proposed for the papakāinga development at 2843 State Highway 12, Waimā.

In general accordance

- (1) The activity shall be carried out in general accordance with the approved plans prepared by ĀKAU Studio Architecture referenced Module General Arrangement Layout, dated 20.02.2025, drawing number 1.01, Rev 8, and attached to this consent with the Council's "Approved Stamp" affixed to it.
- (2) The activity shall be carried out in general accordance with the recommendations of the Civil Suitability Report and Civil Drawings prepared by RS Eng Ltd dated 28 March 2025 and referenced 18837.

Lapse Date

- (3) Under section 125 of the RMA, this consent lapses 10 years after the date it is granted unless:
 - (a) The consent is given effect to; or
 - (b) The council extends the period after which the consent lapses.

Prior to Construction

Papakāinga General

- (4) The construction of buildings within individual exclusive use areas may be undertaken individually and in any order within a stage, provided that the relevant access, infrastructure and ecological enhancement conditions for that stage have been complied with.

Transport/Access – Plan Approval

- (5) The consent holder shall submit plans & details of the vehicle crossings and shared internal accessways of each Development Area for the approval of Council prior to commencing construction. In particular, the plans and details shall show:
 - (a) Formed and concreted vehicle crossing to each Development Area from State Highway 12 to the boundary of the site and must be designed in general accordance with the recommendations in the Traffic Report prepared by Engineering Outcomes Report, dated 29 April and the New Zealand Transport Agency - Waka Kotahi Accessway standards and guidelines as follows:
 - (i) Development Area 02 (West) designed in accordance with Diagram D standard;
 - (ii) Development Area 02 (East) / Bull Paddock designed in accordance with Diagram D standard; and
 - (iii) Development Area 04 designed in accordance with Diagram C standard.

Ecological

- (6) Prior to the commencement of works authorised by this consent, an exclusion fence between wetlands within the relevant Stage and any works area must be erected, including earthworks and must remain in place until the completion of all works are complete.

The purpose of the exclusion fence is to exclude construction machinery or spoil from accidental incursion to the wetlands and to protect the wetland from the effects of earthworks, including excavation, overfilling. No work can be carried out within the protected area and no building or fill

materials must be stored or placed within the protected area, either on a temporary or permanent basis.

- (7) Prior to the commencement of works authorised by this consent a detailed Revegetation, Pest & Weed Management Plan is to be prepared by a suitably qualified Ecologist for the certification by the Council's Manager RMA Consents or delegated representative. The Plan shall address the restoration and enhancement of the wetlands generally as proposed in the Ecological Assessment prepared by Bay Ecological Consulting dated 20 February 2025. The Plan shall detail species and numbers, eco-sourcing of plants, fencing, management of biosecurity and plant diseases, ongoing maintenance and monitoring for a minimum of 5 years, pest weed control, and pest animal control.

Earthworks General

- (8) The consent holder shall notify Council, in writing, of their intention to begin works, a minimum of seven days prior to commencing works. Such notification shall be sent to the Council's Resource Consents Engineer and include the following details:
- (a) Name and telephone number of the civil contractor.
 - (b) Site address to which the consent relates.
 - (c) Activities / stage to which the consent relates.
 - (d) Expected duration of works.
- (9) The Consent Holder shall prepare and provide a Construction Management Plan ('CMP') in accordance with Section 1.6.2 of the Councils Environmental Engineering Standards 2023 ('EES 2023') for certification by the Councils Monitoring Officer or delegated representative.
- (10) Prior to commencement of earthworks approved by this consent onsite, the Consent Holder shall comply with conditions (6) – (9), these may be completed for the entire development or individually per development Stage.

General Construction Conditions

Earthworks

- (11) All sediment control measures shall be selected, constructed and maintained for the duration of construction in accordance with the principles and practices contained within the Auckland Council document entitled "2016/005: Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region" (GD05).
- (12) The installation of all erosion and sediment controls shall be installed prior to commencement of earthworks approved by this consent and shall be supervised by an appropriately qualified and experienced person. The Consent Holder shall provide to the council's monitoring officer certification from the appropriately qualified and experienced person who supervised the installation of the erosion and sediment controls that they have been installed in accordance with the requirements of GD05.
- (13) All earthworks shall be undertaken in accordance with the recommendations made within the report titled "Geotechnical Investigation Report" prepared by RS Eng Ltd and must be managed to ensure that they do not lead to any uncontrolled instability or collapse affecting either the site or adversely affecting any neighbouring properties. In the event that such collapse or instability does occur, it must immediately be rectified.

- (14) Any debris deposited on the public road as a result of the development shall be removed by or at the expense of the applicant.

Advice Notes:

1. *Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This should be made available to all person(s) working on site.*
2. *All storage of materials and loading and unloading of equipment and plant associated with the development shall take place within the site boundaries unless otherwise approved by Council.*

Transport / Access

- (15) The consent holder is responsible for any repairs and reinstatement required of the State Highway 12 carriageway and roadside drain damaged as a result of the development. Such works, where required, will be completed to the satisfaction of the New Zealand Transport Agency - Waka Kotahi.

Fire Fighting Water Supply

- (16) At the time of building consent for a papakāinga housing unit, the consent holder shall provide suitable water storage for firefighting water supply in accordance with SNZ PAS 4509:2008. Water storage can be provided communally or individually within each exclusive use area at the following minimum volumes:
- (a) For communal firefighting supply, a minimum of 45m³ of water storage must be provided and must be located within 90m of each residential unit.
 - (b) For individual on-site firefighting supply, a minimum of 10m³ of water storage must be provided per residential unit must be provided.

Stage One Conditions – Sites 00 – 08

Stage one – Transport/Access

- (17) Prior to the construction of the first residential unit within any exclusive use areas Sites 01 – 03, the vehicle crossing to State Highway 12 must be formed and constructed accordance with plans the approved plans in condition 5.
- (18) The consent holder shall form, with an all-weather surface, and drainage for the accessway for Site 00 following the completion of the Stage 1 vehicle crossings complying with Condition 20.
- (19) The consent holder shall remove the existing vehicle crossing serving Site 00 and reinstate the drainage channel and berm following the completion of the Stage 1 vehicle crossings and Site 00 access complying with Condition 20 and 21.
- (20) Prior to the construction of the first residential unit on Site 01 or Site 02 the common access way, as shown on the plan titled "C10 AREA 2 - INTERSECTION LAYOUT" prepared by RS Eng Ltd and approved by condition 15, must be formed, with an all-weather surface, and drained.
- (21) Prior to the construction of the first residential unit within Sites 03-08 within Stage 1:

- (a) Construct a vehicle crossings State Highway 12 that is formed and concreted in accordance with New Zealand Transport Agency - Waka Kotahi Accessway Standards and Guidelines – Diagram D, as approved by condition 15.
- (b) The common access way, as shown on the plan titled “C11 AREA 2, ROAD 1 - LONGITUDINAL SECTION” prepared by RS Eng Ltd, must be formed, with an all-weather surface, and drained.

Note: This condition includes the 9.5 cul-de-sac head.

- (22) Prior to the construction of the first residential unit on Site 07 or 08 the common access way, must be formed, with an all-weather surface, and drained up to the vehicle access point for that exclusive use area.

Stage One – Ecology

- (23) Within 6 months of the occupation of the first residential unit within Site 03-12 and within an appropriate planting season, the consent holder must implement the riparian planting identified to the west of Site 03 within Stage 1 in accordance with the plan titled “1.01 Stage 1 and 2 Layout Plan” prepared by ĀKAU Studios. Planting must in accordance with the plan prepared under Condition 6 and evidence of compliance with this condition shall be provided to Council in writing from a suitably qualified and experienced ecologist.
- (24) Within 6 months of the occupation of the first residential unit within Site 03 and within an appropriate planting season, the consent holder must implement the riparian planting identified to the east of Site 03 and above the accessway within Stage 1 in accordance with the plan titled “1.01 Stage 1 and 2 Layout Plan” prepared by ĀKAU Studios. Planting must in accordance with the plan prepared under Condition 11 and evidence of compliance with this condition shall be provided to Council in writing from a suitably qualified and experienced ecologist.

Stage Two – Access

- (25) Prior to the construction of the first residential unit within any exclusive use area within Stage 2 the common access way, as shown on the plans titled “C11 and C12 AREA 2, ROAD 1 - LONGITUDINAL SECTION” prepared by RS Eng Ltd, must be formed, with an all-weather surface, and drained up to the vehicle access point for that exclusive use area.
- (26) Prior to undertaking any earthworks associated with formation of the common accessway required in accordance with condition 28 the consent holder must construct the upgraded stream crossing in accordance with the plan titled “C13 CULVERT LONGITUDINAL SECTION” and accompanying report titled “Civil Suitability Report” prepared by RS Eng Ltd.

Stage Two – Ecology

- (27) Prior to the occupation of the first residential unit within Site 09 and within an appropriate planting season, the consent holder must implement the riparian planting identified to the west of Site 09 and above the accessway within Stage 3 in accordance with the plan titled “1.01 Stage 1 and 2 Layout Plan” prepared by ĀKAU Studios. Planting must in accordance with the plan prepared under Condition 11 and evidence of compliance with this condition shall be provided to Council in writing from a suitably qualified and experienced ecologist.

Stage Three – Access

- (28) Prior to the construction of the first residential unit within any exclusive use area within Stage 3 the vehicle crossing to State Highway 1 must be constructed in accordance with the approved plans provided in condition 5.
- (29) Prior to the construction of the first residential unit within any exclusive use area within Stage 3 the consent holder must construct the upgraded stream crossing in accordance with the plan titled “C07 CULVERT LONGITUDINAL SECTION” and accompanying report titled “Civil Suitability Report” prepared by RS Eng Ltd.
- (30) The consent holder shall form, with an all-weather surface, and drain the accessway for the existing dwelling in Stage 3, as shown on the plan titled “AREA 4, ROAD 2 - LONGITUDINAL SECTION” prepared by RS Eng Ltd, following the completion of the Stage 3 vehicle crossing complying with Condition 32.
- (31) The consent holder shall remove the existing vehicle crossing serving the existing dwelling and reinstate the drainage channel and berm following the completion of the Stage 3 vehicle crossings and accessway complying with Condition 30 and 32.
- (32) Prior to the construction of a residential unit within any exclusive use area within Stage 3 the common access way, as shown on the plan titled “C05 AREA 4, ROAD 1 - LONGITUDINAL SECTION” prepared by RS Eng Ltd, must be formed, with an all-weather surface, and drained up to the vehicle access point for that exclusive use area.

Stage Three – Ecology

- (33) Within 6 months of occupation of the first residential unit within any exclusive use area within Stage 3 and within an appropriate planting season, the consent holder must implement the riparian planting identified to the south of the access (along the Whawharu Stream) within Stage 3 in accordance with the plan titled “1.02 Stage 3 Layout Plan” prepared by ĀKAU Studios. Planting must in accordance with the plan prepared under Condition 11 and evidence of compliance with this condition shall be provided to Council in writing from a suitably qualified and experienced ecologist.
- (34) Within 6 months of the occupation of the first residential unit within Site 15 or 16 within Stage 3 and within an appropriate planting season, the consent holder must implement the riparian planting identified to the northwest of the site within Stage 3 in accordance with the plan titled “1.02 Stage 3 Layout Plan” prepared by ĀKAU Studios. Planting must in accordance with the plan prepared under Condition 6 and evidence of compliance with this condition shall be provided to Council in writing from a suitably qualified and experienced ecologist.

On-going Conditions

Papakāinga Exclusive Use Areas

- (35) Exclusive use areas approved under this consent shall not have more than two residential units as defined by the Operative Far North District Plan 2009.

Advice Note: Residential Unit is defined by the Operative Far North District Plan 2009 as “A building, a room or a group of rooms, used, designed or intended to be used by one or more persons as a self-contained single, independent and separate household. Any accessory building providing sleeping accommodation and bathroom facilities but no cooking or dishwashing or laundry facilities will be treated as forming part of a residential unit / dwelling.”

- (36) Exclusive use areas approved under this consent shall not have impervious areas exceeding 15%.

- (37) Exclusive use areas approved under this consent shall not have a building coverage exceeding 12.5%.
- (38) No building within an approved exclusive use area shall be located within an overland flow path identified within the report titled “Civil Suitability Report” prepared by RS Eng Ltd.
- (39) No wastewater reserve area within an approved exclusive use area shall be within 15m of any mapped wetland as shown on the plans titled “1.01 Stage 1 and 2 Layout Plan” and “1.02 Stage 3 Layout Plan” prepared by ĀKAU Studios.
- (40) Wastewater disposal fields for each exclusive use areas shall be designed in accordance with the recommendations made within the report titled “Civil Suitability Report” prepared by RS Eng Ltd. Details of this shall be provided at the time of lodging a building consent.
- (41) Prior to occupation of the first residential unit within each individual exclusive use area shall have potable water tank installed in accordance with the recommendations of the report titled “Civil Suitability Report” prepared by RS Eng Ltd.
- (42) All habitable buildings within the approved exclusive use areas shall have a finished floor level no lower than 500mm above the existing ground level as per LiDAR (2018) NZVD2016.
- (43) No building within approved exclusive use areas Sites 06-17 shall exceed the maximum approved building envelopes specified below within their respective exclusive use area as shown on the plans titled “1.01 Stage 1 and 2 Layout Plan” and “1.02 Stage 3 Layout Plan” prepared by ĀKAU Studios.
- a. **Building height:** The maximum height of any building shall be 8m;
 - b. **Sunlight:** No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any exclusive use boundary;
 - c. **Boundary Setback:** No building shall be erected within 3m of any exclusive use boundary; and
 - d. **Wetland Setback:** No building shall be erected within 20m of any mapped wetland as shown on the plans titled “1.01 Stage 1 and 2 Layout Plan” and “1.02 Stage 3 Layout Plan” prepared by ĀKAU Studios.

Access Sightlines

- (44) No planting with a potential height of 1.2m, fencing greater than 1.2m, or any buildings greater than 1.2m shall be erected on the site within the area identified as a ‘Complying Sightline’ on the plans titled “Area 2 Land Impact Plan Sightlines” and “Area 4 Land Impact Plan Sightline” prepared by Engineering Outcome Limited dated 17 February 2025.

Waimā Topu B Papakainga

MASTER PLAN

Issue date: 20.02.2025

Issued for: RESOURCE CONSENT

Drawing list

Master plan drawings

0.00 Waimā Topu B Context Plan

0.01 Stage 1 and 2 Site Plan

0.02 Stage 3 Site Plan

1.01 Stage 1 and 2 Layout Plan

1.02 Stage 3 Layout Plan

1.11 Stage 1 and 2 Staging Plan

1.12 Stage 3 Staging Plan

Housing typologies

RC-001 4Bed + minor dwelling typology plan

RC-002 4Bed + minor dwelling typology elevations

RC-003 1bed + 1bed dwelling typology plan

RC-004 1bed + 1bed dwelling typology elevations

RC-005 Studio (34 sqm) Dwelling Typology Plan & Elevations

RC-006 1Bed (47 sqm) Dwelling Typology Plan & Elevations

RC-007 1Bed (65 sqm) Dwelling Typology Plan & Elevations

RC-008 3Bed Dwelling Typology Plan

RC-009 3Bed Dwelling Typology Elevations

RC-010 4Bed Dwelling Typology Plan

RC-011 4Bed Dwelling Typology Elevations

Elevations

RC-012 Site Elevations

Site mapping: context

About the Waimā Topu B Whenua

Waimā Topu B Block is located between Kaikohe and the Hokianga, about 20 minutes' drive East of Kaikohe on State Highway 12. The single title NZ52B/53 is approximately 688ha in size.






The whenua is aligned in a north-south direction, with the SH12 running along its south-eastern edge. Waimā Valley is to the west of the site. The north, and the whenua has ridges along its east and west boundaries, falling towards a central stream valley.

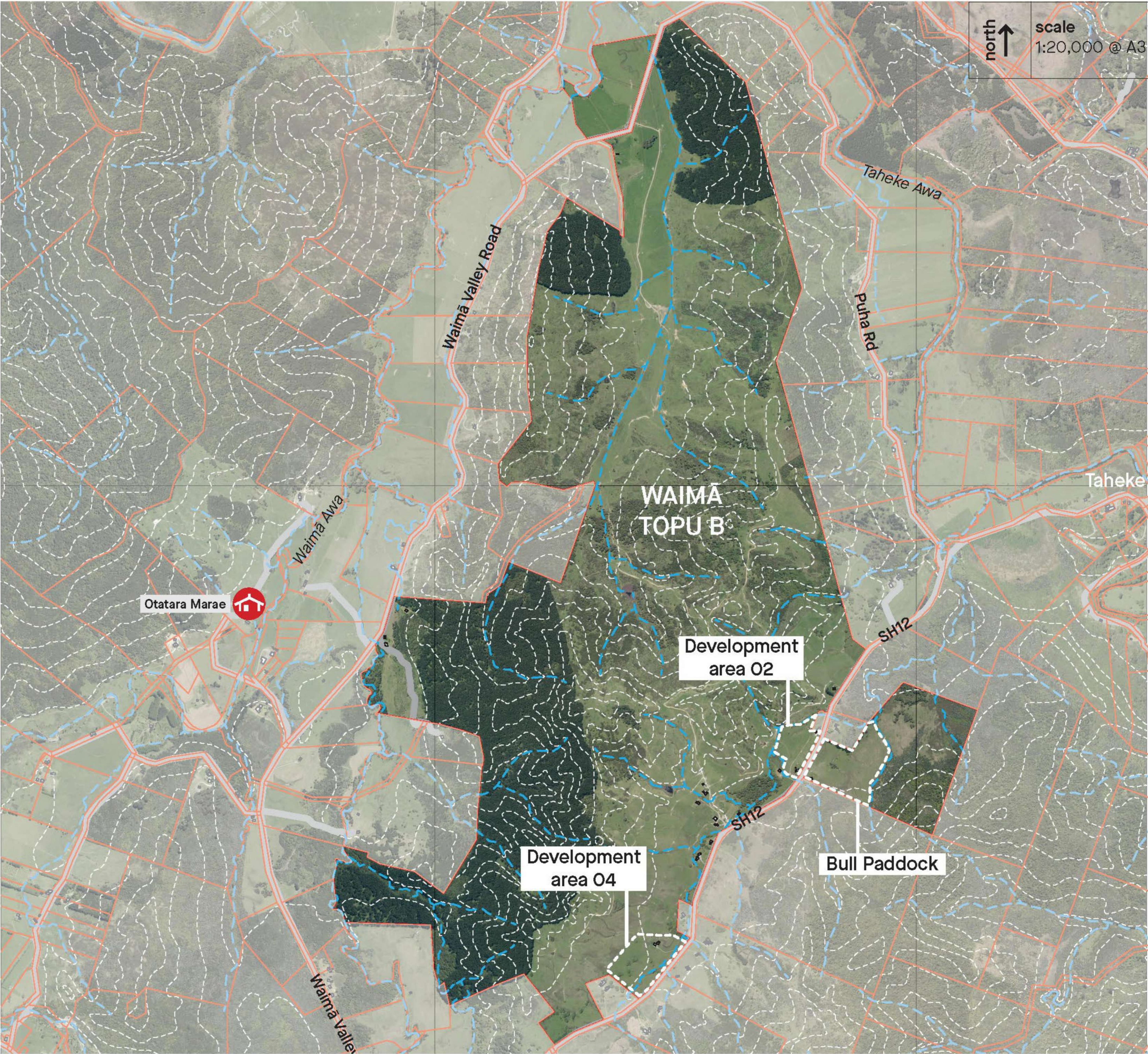
The focus areas for this Papakāinga projects are the sites identified for development in the early investigation stages: 'Bull Paddock' 'Development Area 02 (DA02)' and 'Development Area 04 (DA04)'. All three sites are on the south-east edge of the whenua, and all three have boundaries at SH12.

There are already 5 existing rental whare and 9 existing papakāinga whare on the whenua that the Trust manages.

The total area of the Waimā Topu B Whenua is 687.9ha. The area of existing buildings is approximately 2004m²/0.2ha, therefore existing building coverage is approximately 0.0003%.

The master plan proposes 869m² of additional building area, bringing total building area to 2,873/0.29ha. Proposed overall building coverage on the Waimā Topu B Whenua will be 0.0004%.

Key	
	Property boundary
	River centreline
	20m contour line
	Building
	Indicative papakāinga development site





LEGEND

Property Boundary (LINZ GIS data)

Existing features

Major contour - 1m

Minor contour - 0.25m

Mapped wetland

Drain/stream

Power line

P

Power pole

Setbacks

10m setback from power line

10m setback from property boundary

0.01	20.02.25	5
0.01	28.01.25	4
0.01	14.01.25	3
0.01	19.11.24	2
0.01	20.10.24	1
No.	Date	Revision

ĀKAU

Job:
Waimā Topu B Papakāinga

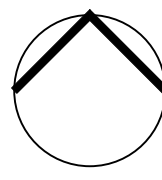
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Drawing Title:
Stage 1 and 2 Site Plan

Drawing Number:
0.01

Revision:
5

Issued for:
Resource Consent





LEGEND

Property Boundary (LINZ GIS data)

Major contour - 1m

Minor contour - 0.25m

Mapped wetland

Drain/stream

Power line

Power pole

Setbacks

10m setback from power line

10m setback from property boundary

0.02	20.02.25	5
0.02	28.01.25	4
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0.02	20.10.24	1
No.	Date	Revision

ĀKAU

Job:
Waimā Topu B Papakāinga

Scale:
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1:1500@ A3
Drawing Title:

Stage 3 Site Plan

Drawing Number: 0.02
Revision: 5

Issued for:
Resource Consent



LEGEND

Property Boundary (LINZ GIS data)

Major contour - 1m

Minor contour - 0.25m

Mapped wetland

Drain/stream

Power line

Power pole

Setbacks

10m setback from power line

10m setback from property boundary

Proposed development

Exclusive Use Areas (3000m2 per site)

10m setback from mapped wetland

20m setback from mapped wetland

Proposed riparian planting

Proposed wetland planting

Proposed road (6m carriageway)

Proposed shared accessway (3m carriageway with passing bays)

Proposed driveway (3m wide)

1.02	20.02.25	9
1.02	28.01.25	8
1.02	14.01.25	7
1.02	19.11.24	6
1.02	20.10.24	5
No.	Date	Revision

ĀKAU

Job:
Waimā Topu B Papakāinga

Scale:
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1:1500@ A3
Drawing Title:

Stage 3 Layout Plan

Drawing Number: Revision:

1.02 9

Issued for:
Resource Consent



Exclusive Use Areas and anticipated occupation

Stage 1

Site 00
Existing Waimā Topu B whare relocated from current location to new location inside of Waimā Topu B boundary

Site 01
3015m2 exclusive use area
203m2 building coverage
278m2 impermeable surface area

Site 02
3025m2 exclusive use area
203m2 building coverage
285m2 impermeable surface area

Site 03
3023m2 exclusive use area
130m2 building coverage
263m2 impermeable surface area

Site 04
3004m2 exclusive use area
130m2 building coverage.
361m2 impermeable surface area

Site 05
3045m2 exclusive use area
203m2 building coverage
285m2 impermeable surface area

Site 06
3030m2 exclusive use area

Site 07
3082m2 exclusive use area

Site 08
3065m2 exclusive use area

Stage 2

Site 09
3029m2 exclusive use area

Site 10
3000m2 exclusive use area

Site 11
3026m2 exclusive use area

Site 12
3030m2 exclusive use area

1.11	20.02.25	4
1.11	28.01.25	3
No.	Date	Revision

ĀKAU

Job:
Waimā Topu B Papakāinga

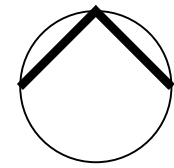
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Drawing Title:

Stage 1 and 2 Staging Plan

Drawing Number: Revision:

1.11 4

Issued for:
Resource Consent





Exclusive Use Areas and anticipated occupation

Stage 3

- Site 13
3005m2 exclusive use area
- Site 14
3012m2 exclusive use area
- Site 15
3071m2 exclusive use area
- Site 16
3070m2 exclusive use area
- Site 17
3035m2 exclusive use area

1.12	20.02.25	4
1.12	28.01.25	3
1.12	14.01.25	2
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No.	Date	Revision

ĀKAU

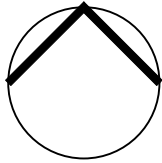
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Drawing Title:

Stage 3 Staging Plan

Drawing Number:	Revision:
1.12	4

Issued for:
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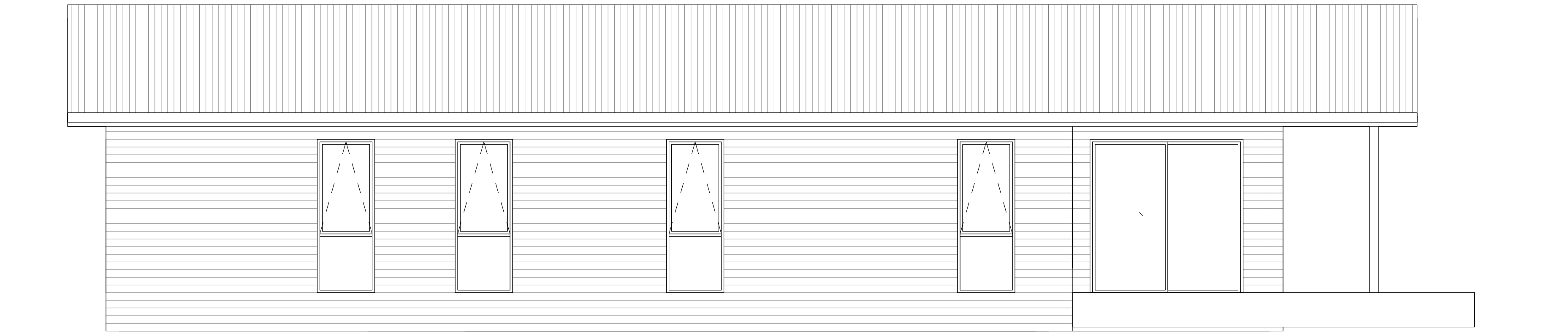
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FOR APPROVAL

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drawing			
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scale	1 : 50	date	FEB 25
drawn	FB	plot date	18/02/2025 3:05:12 pm
job number	FB24.13	dwg number	RC-001

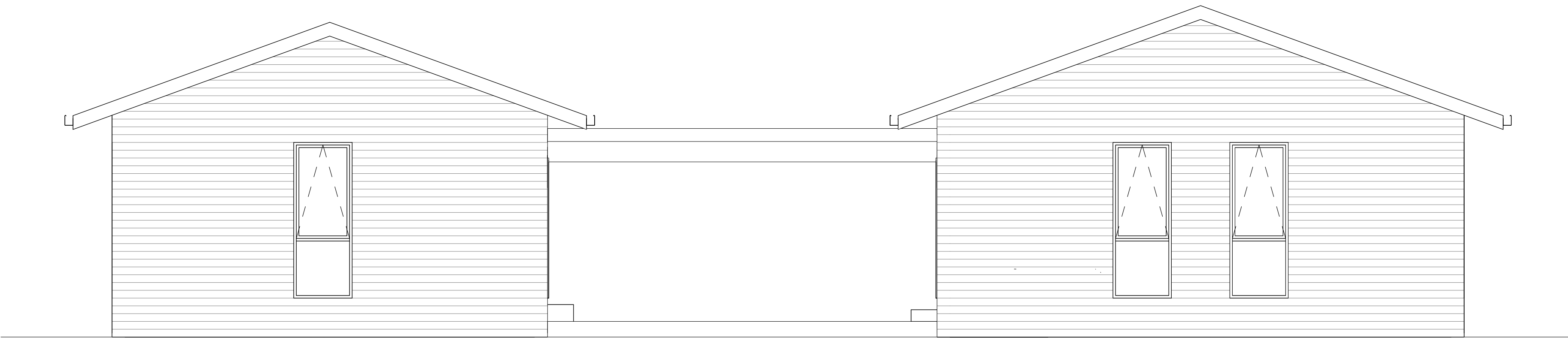
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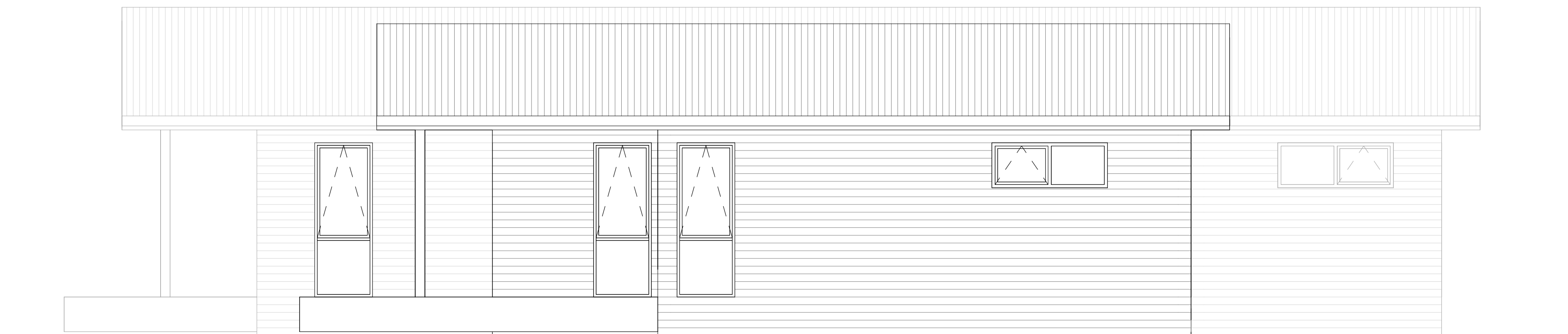




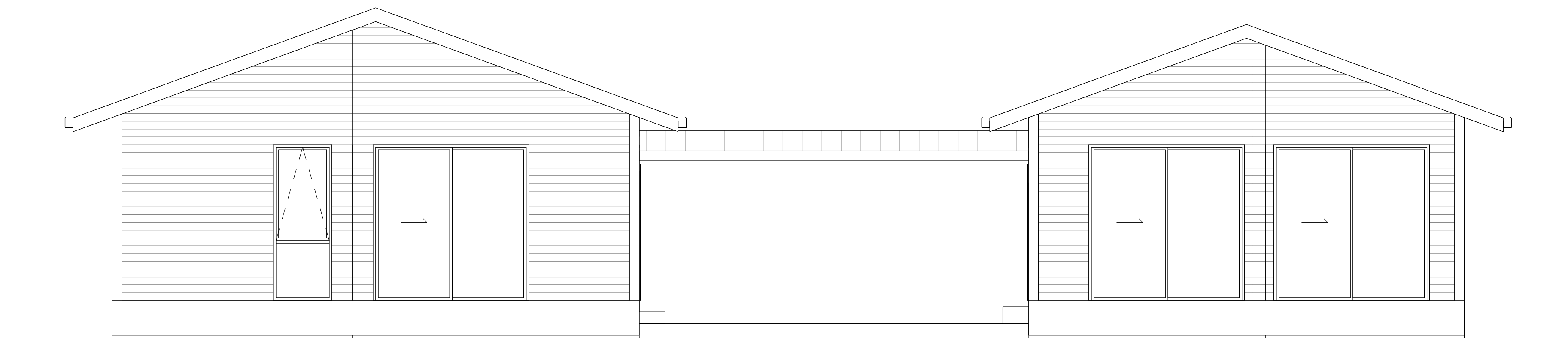
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4 BED + 1 BED EAST ELEVATION
1 : 50



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RC-001
4 BED + 1 BED SOUTH ELEVATION
1 : 50



4
RC-001
4 BED + 1 BED WEST ELEVATION
1 : 50



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drawing	4 BED + MINOR DWELLING TYPOLOGY ELEVATIONS		
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drawn	FB	plot date 18/02/2025 3:05:13 pm	
job number	FB24.13	dwg number RC-002	issue

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B 1 BED + 1 BED FLOOR PLAN
1 : 50



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REV	DATE	DETAILS	INIT

project

NEW HOUSING
WAIMA TOPU B

drawing

1 BED + 1 BED DWELLING
TYPOLOGY PLAN

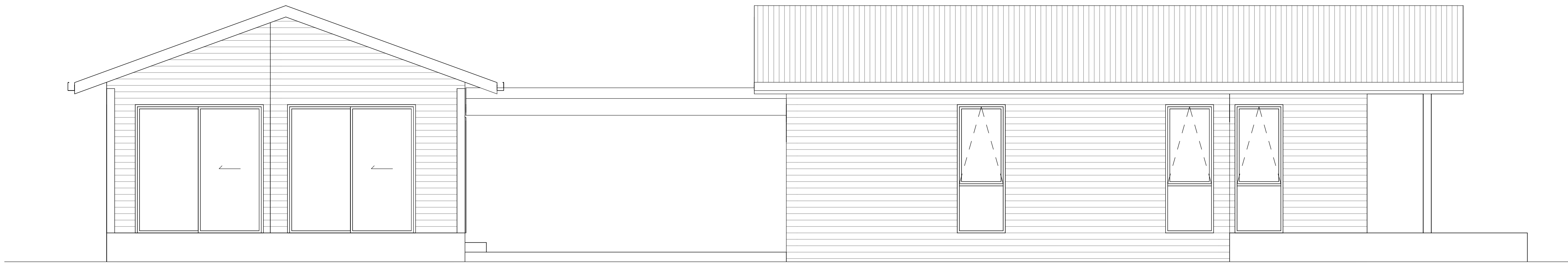
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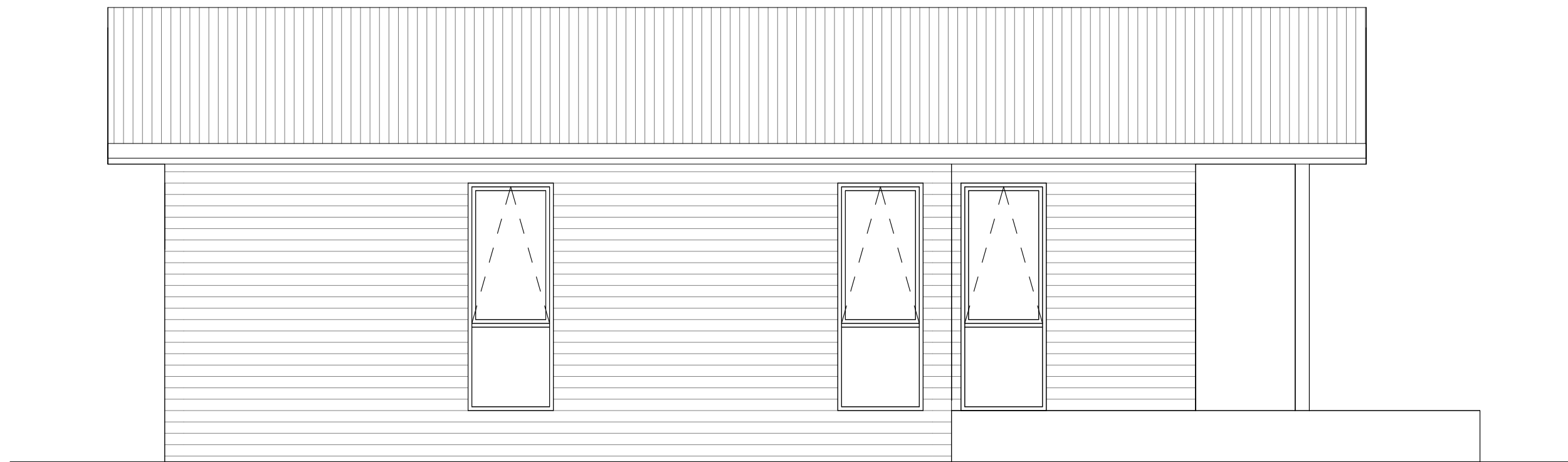
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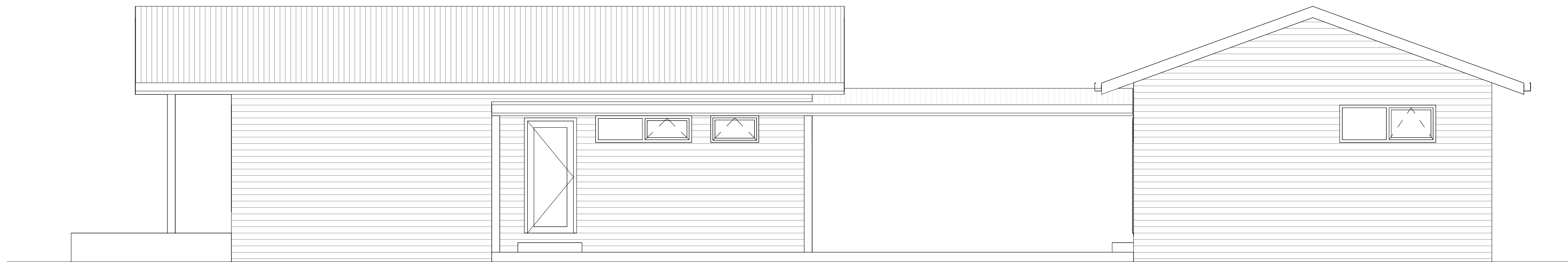
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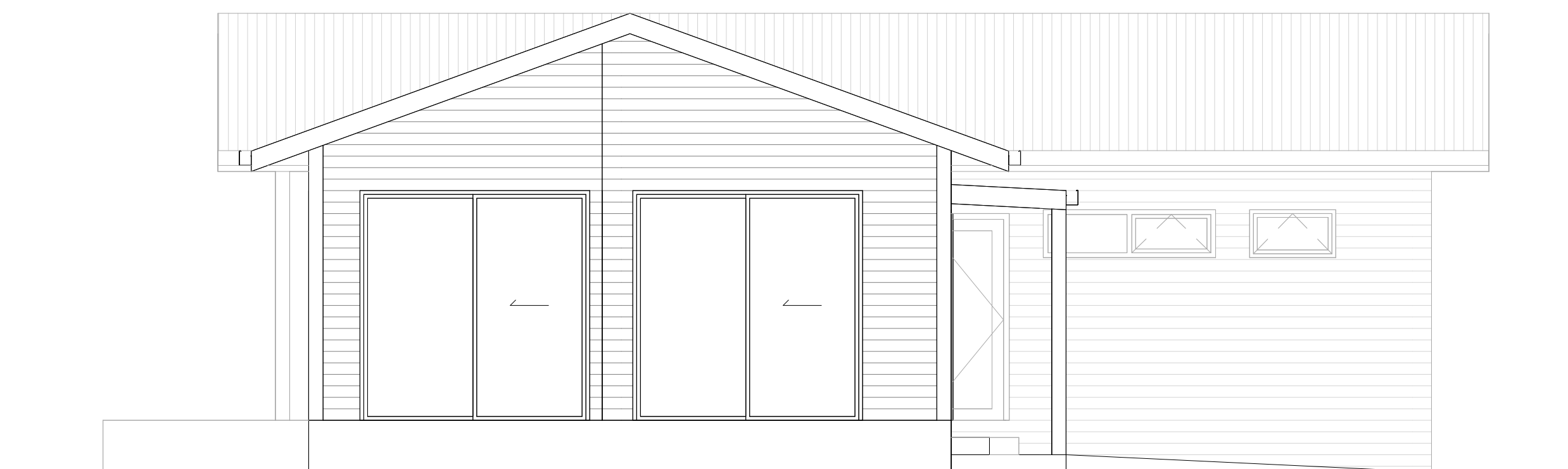
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1 : 50



4
RC-003
1 BED + 1 BED WEST ELEVATION
1 : 50



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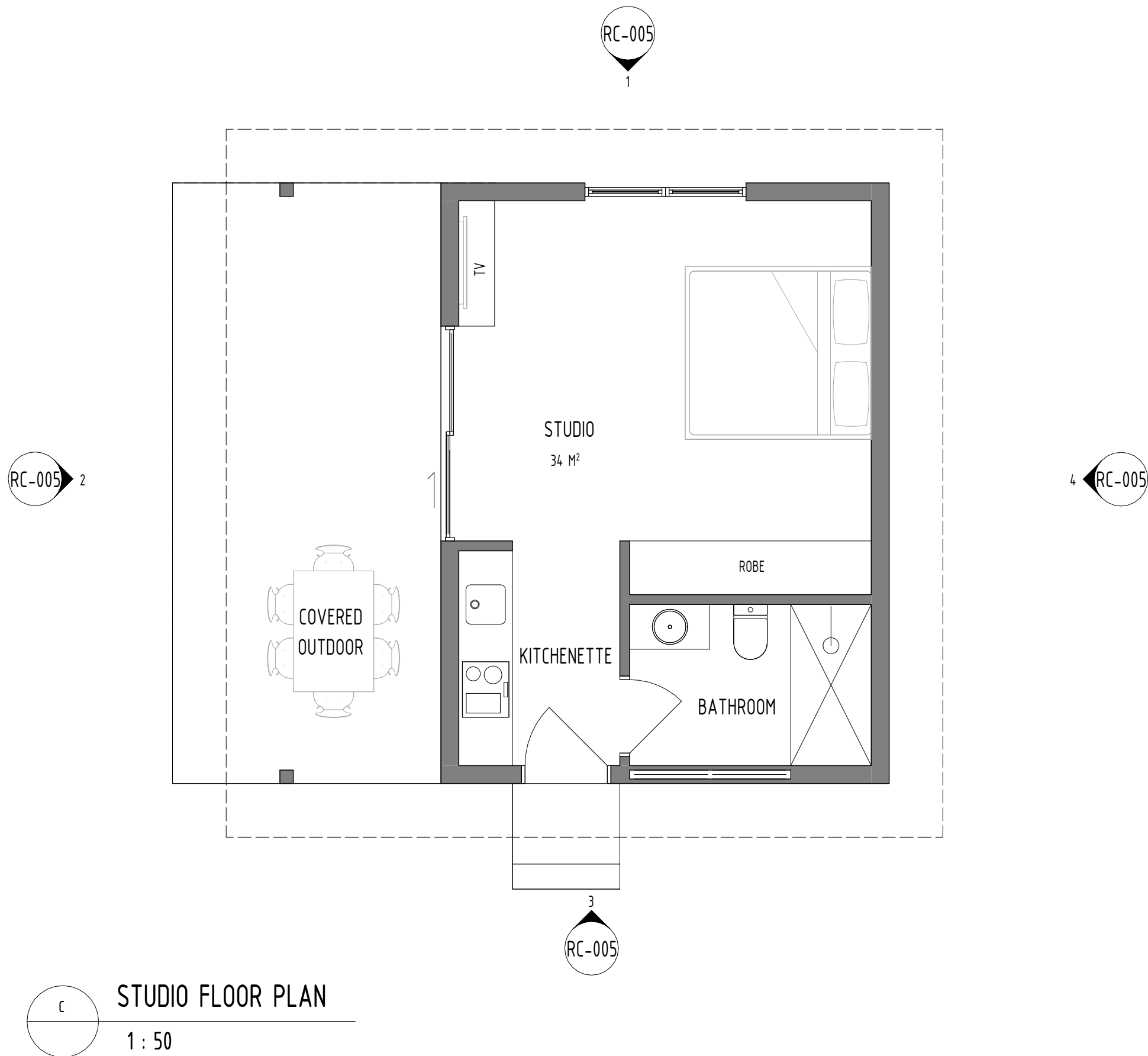
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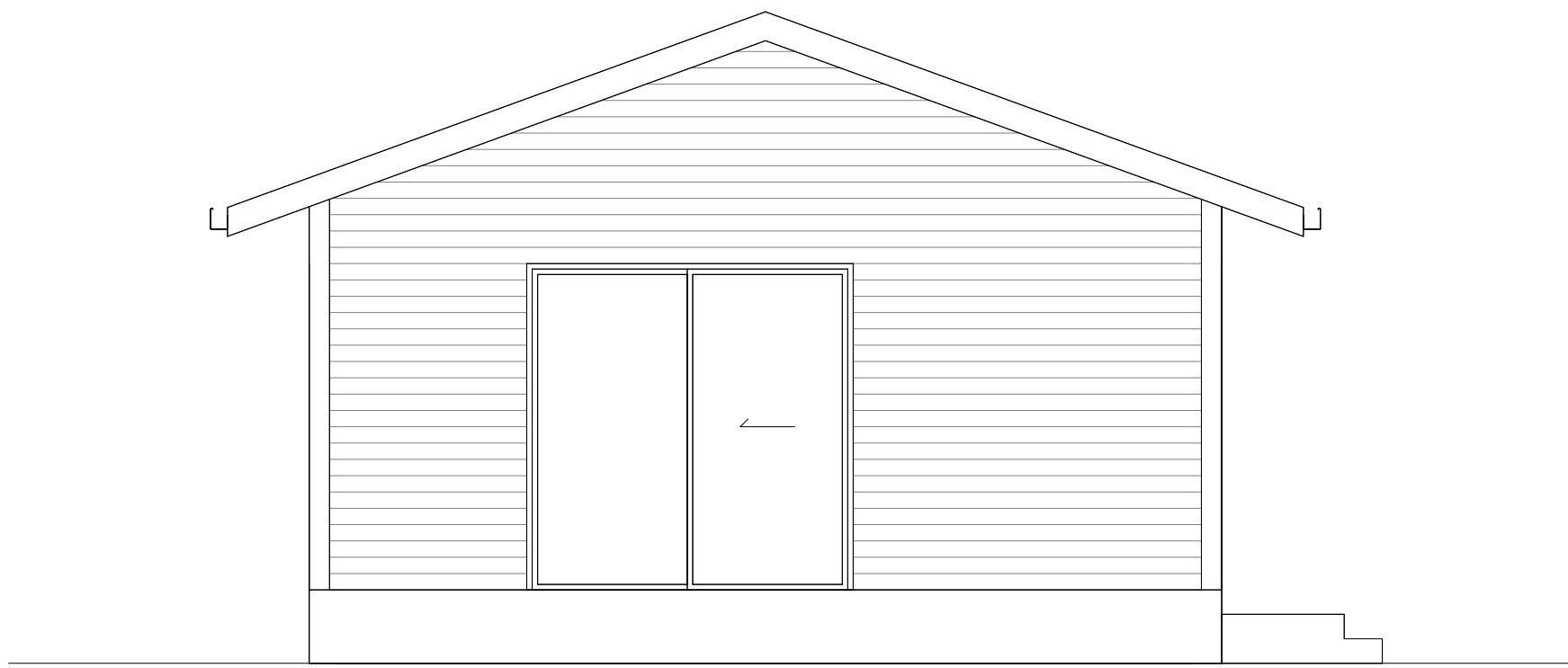
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job number FB24.13	dwg number RC-004	issue	

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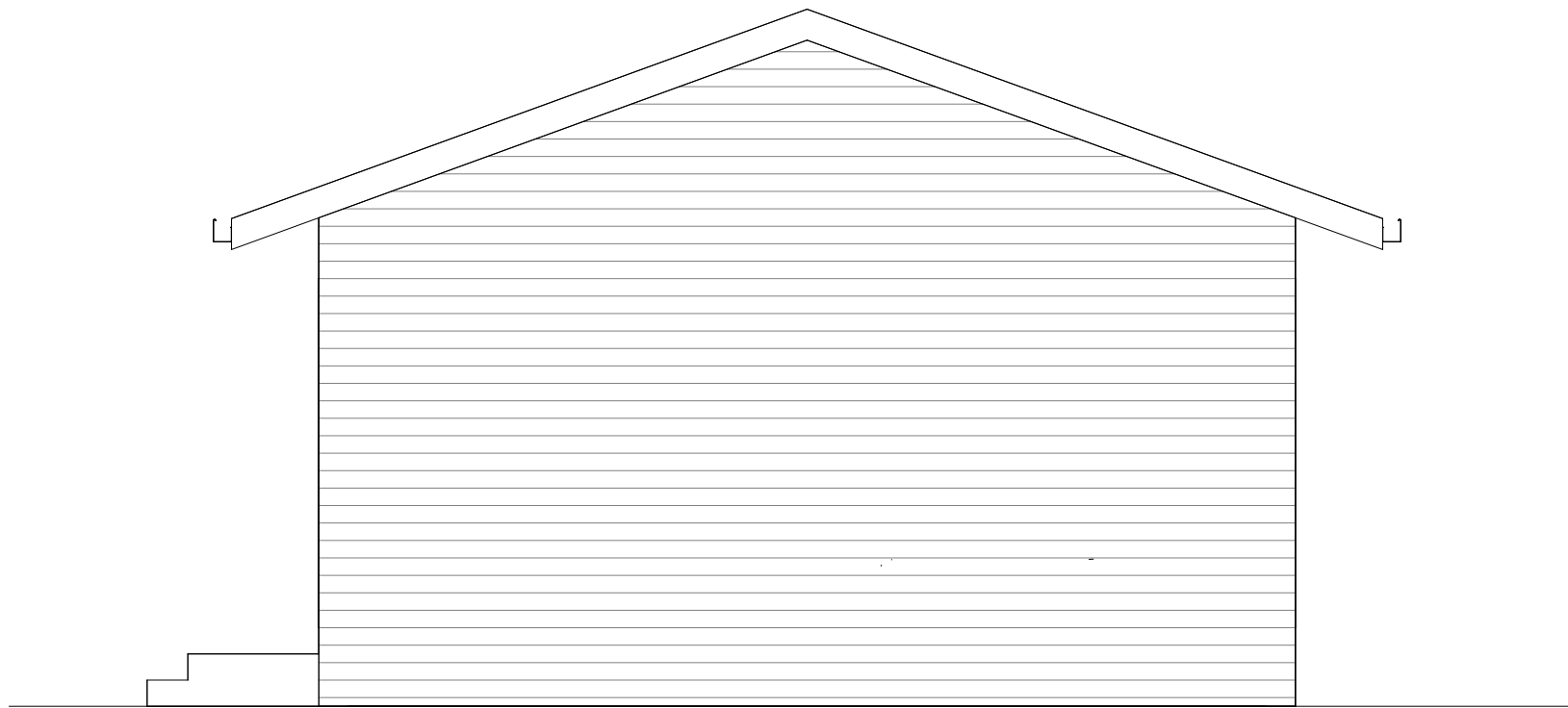
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4
RC-005
STUDIO EAST ELEVATION
1 : 50



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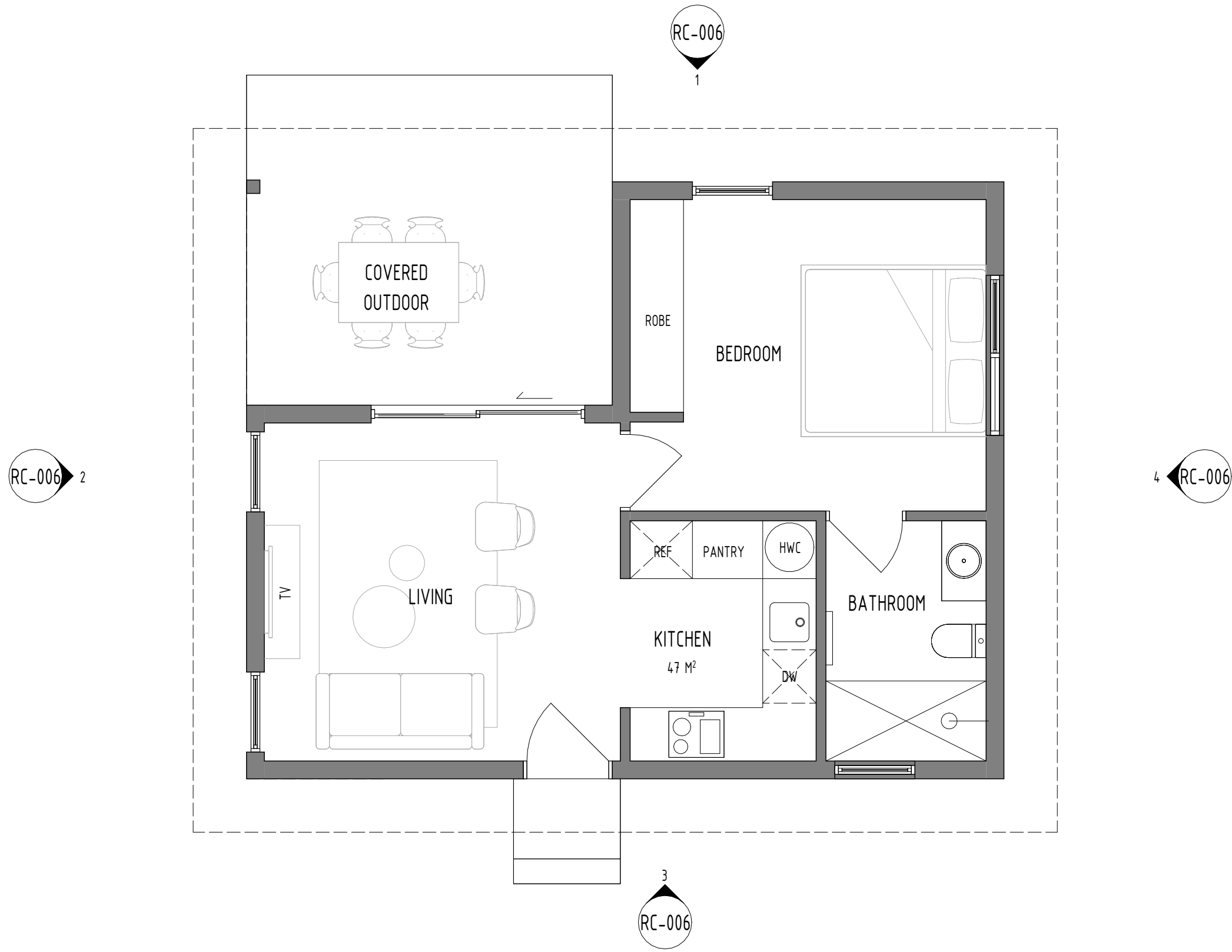
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RESOURCE CONSENT
FOR APPROVAL

REV	DATE	DETAILS	INIT
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NEW HOUSING WAIMA TOPU B			
drawing			
STUDIO (34 SQM) DWELLING TYPOLOGY PLAN & ELEVATIONS			
scale	1 : 50	date	FEB 25
drawn	FB	plot date	18/02/2025 3:05:14 pm
job number	FB24.13	dwg number	RC-005

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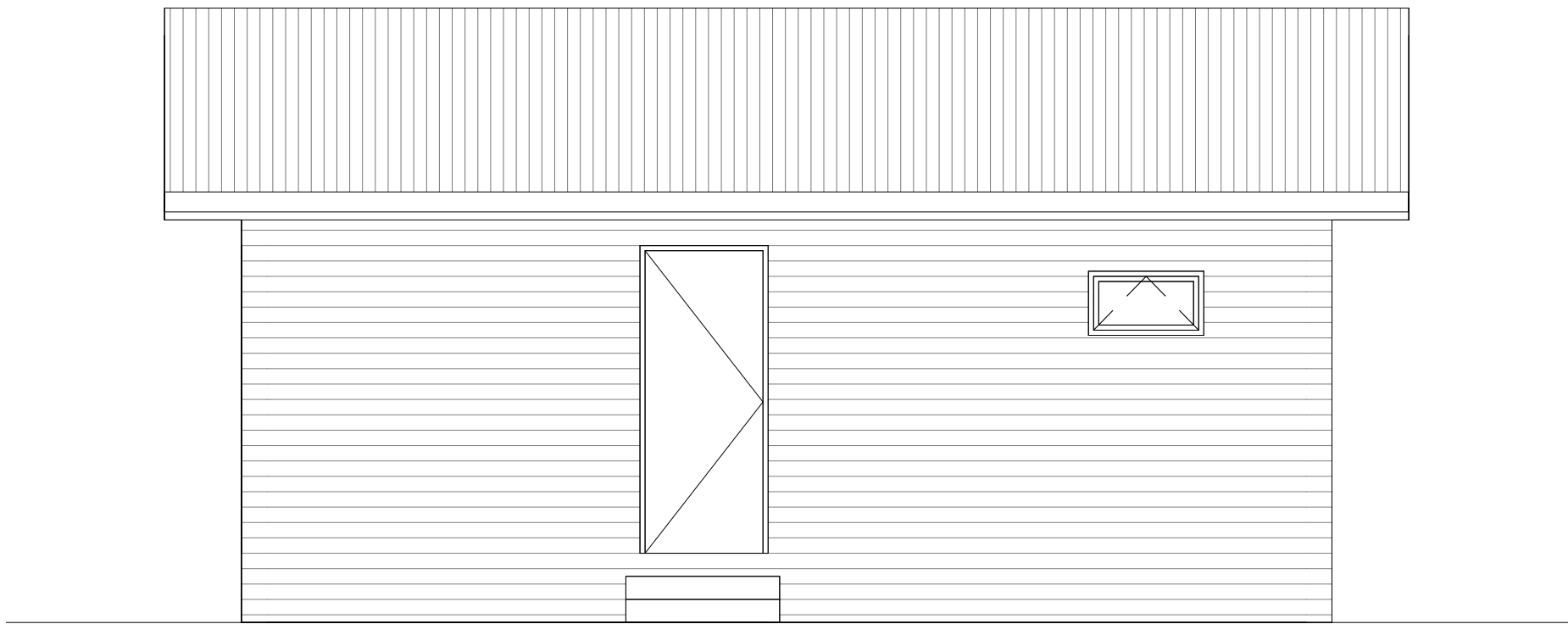
p. +6421 0272 2499
e. felicity@felicitybrenchley.nz
w. felicitybrenchley.nz



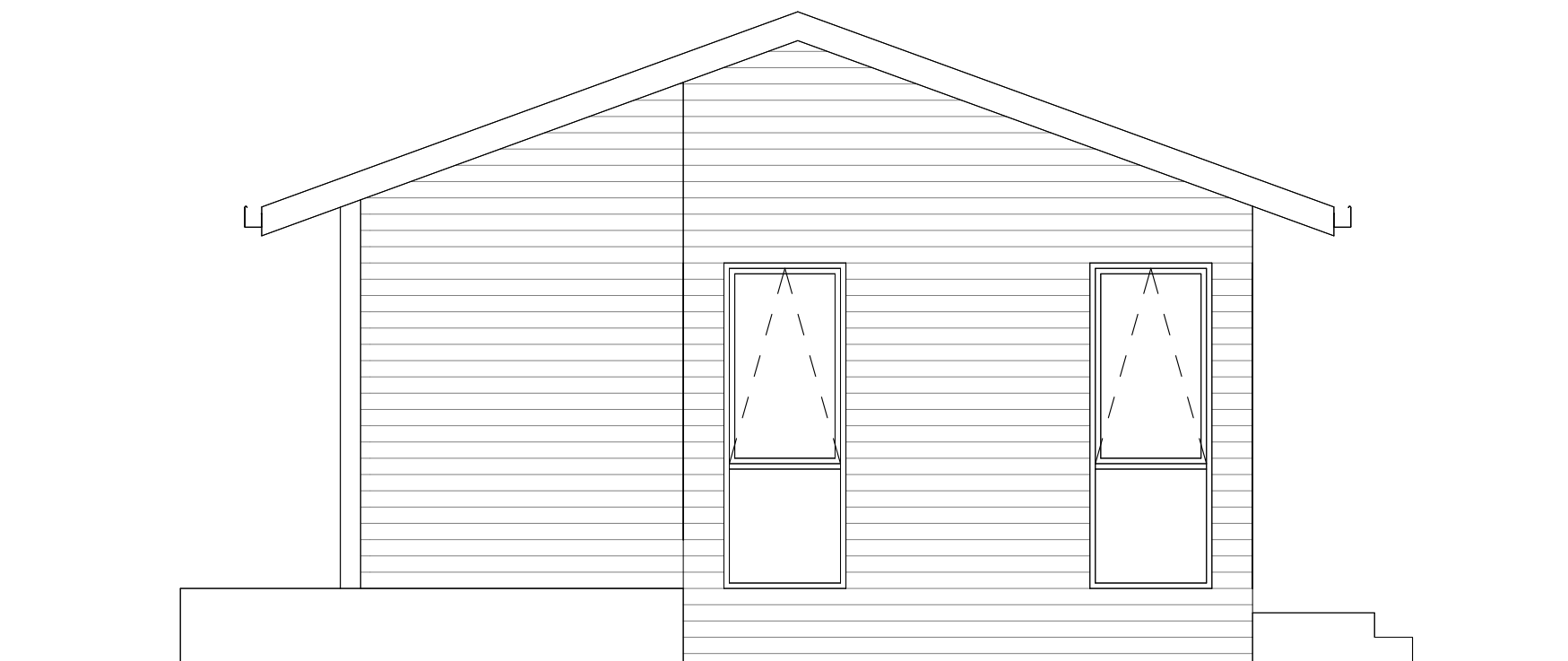
D 1 BED (47 SQM) FLOOR PLAN
1 : 50



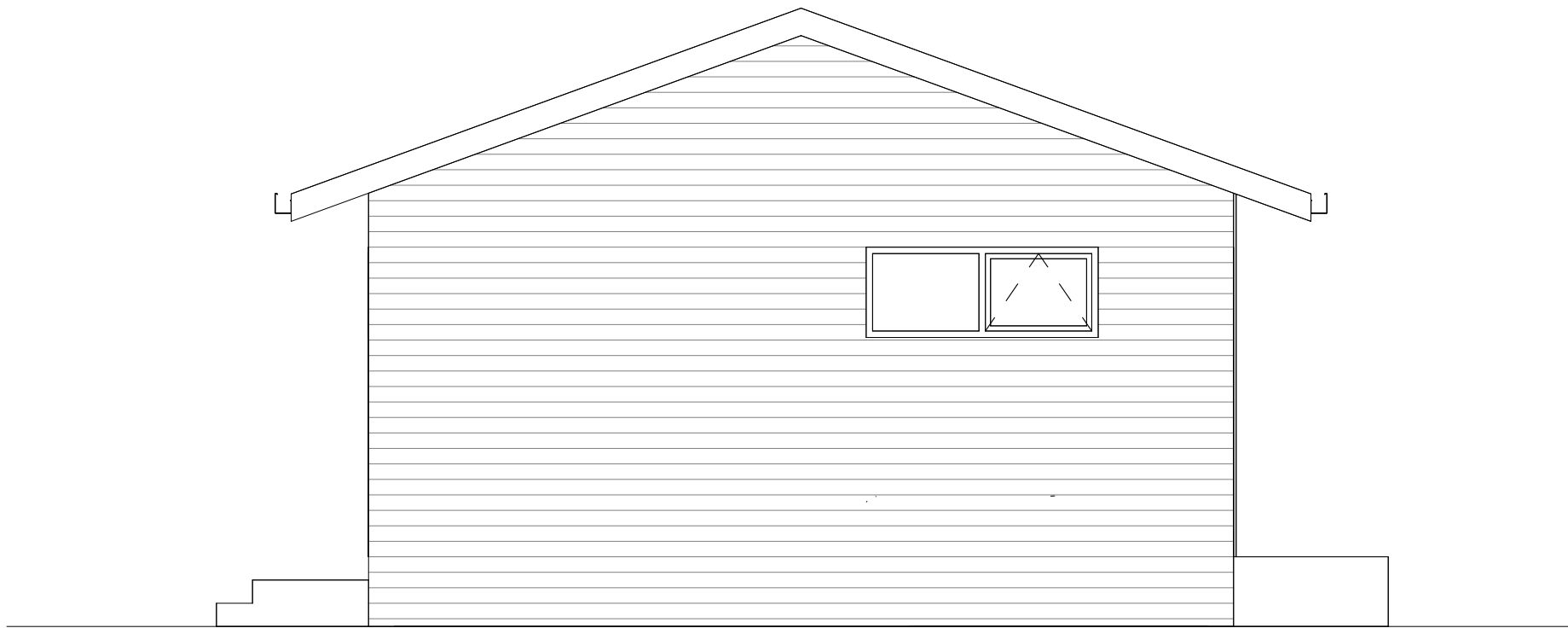
1 1 BED (47 SQM) NORTH ELEVATION
RC-006 1 : 50



3 1 BED (47 SQM) SOUTH ELEVATION
RC-006 1 : 50



2 1 BED (47 SQM) WEST ELEVATION
RC-006 1 : 50



4 1 BED (47 SQM) EAST ELEVATION
RC-006 1 : 50



NOTE TO CONTRACTORS:
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ALL CONSTRUCTION WORK TO COMPLY WITH THE REQUIREMENTS OF THE NEW ZEALAND BUILDING CODE AND RELEVANT NEW ZEALAND STANDARDS.

ALL MATERIALS TO BE USED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION.

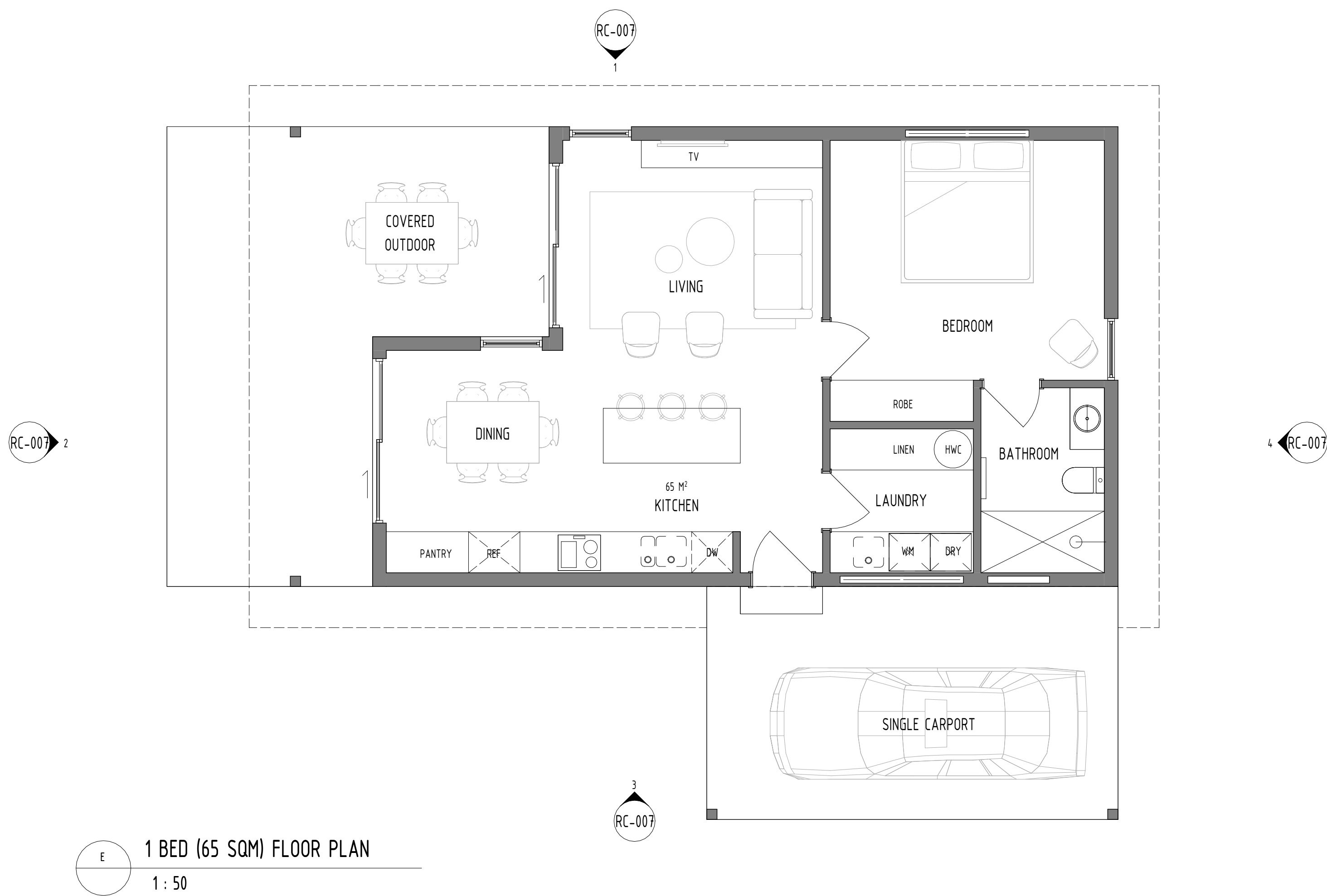
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RESOURCE CONSENT
FOR APPROVAL

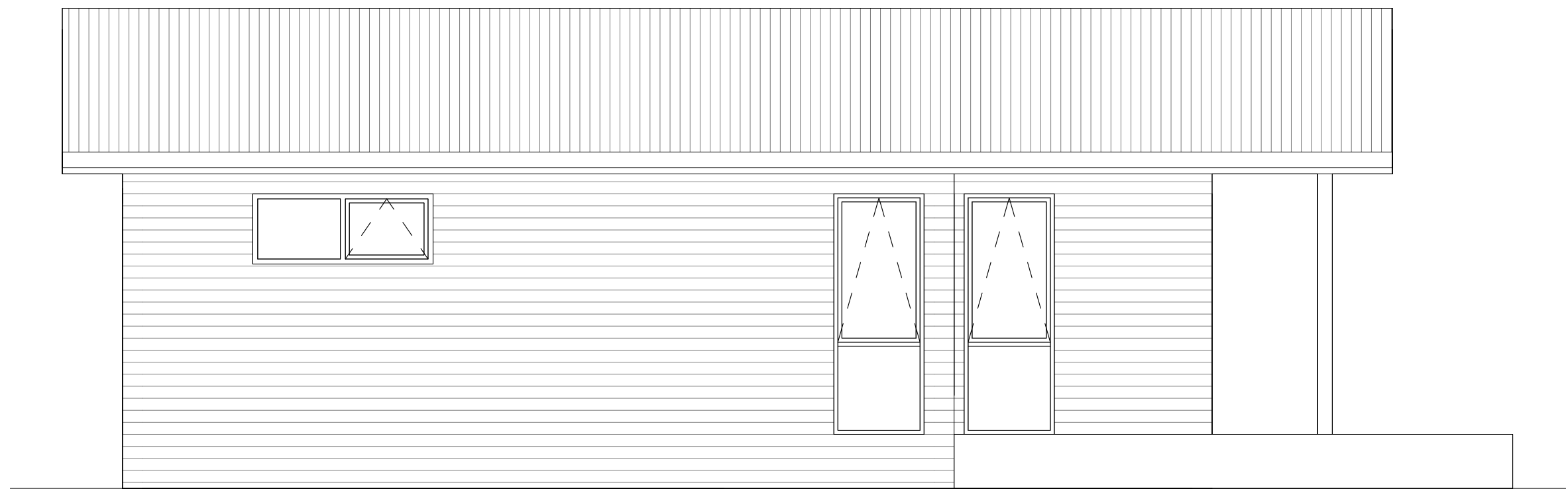
REV	DATE	DETAILS	INIT
project NEW HOUSING WAIMA TOPU B			
drawing 1 BED (47 SQM) DWELLING TYPOLOGY PLAN & ELEVATIONS			
scale	1 : 50	date	FEB 25 ©
drawn	FB	plot date	18/02/2025 3:05:14 pm
job number	FB24.13	dwg number	RC-006

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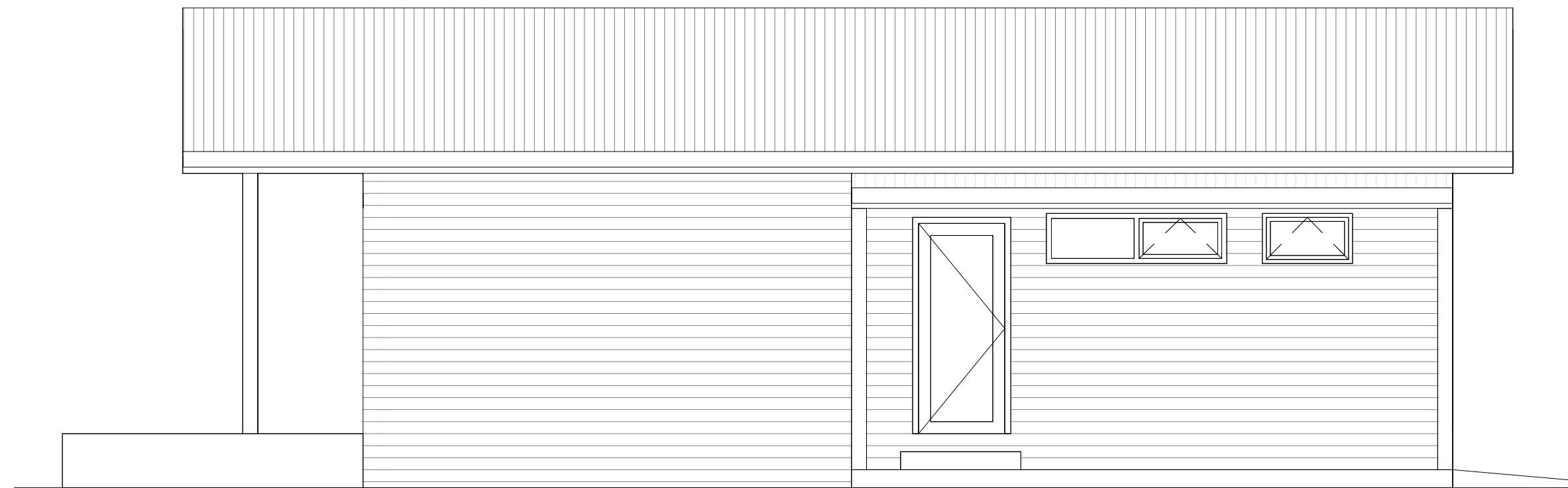
p. +6421 0272 2499
e. felicity@felicitybrenchley.nz
w. felicitybrenchley.nz



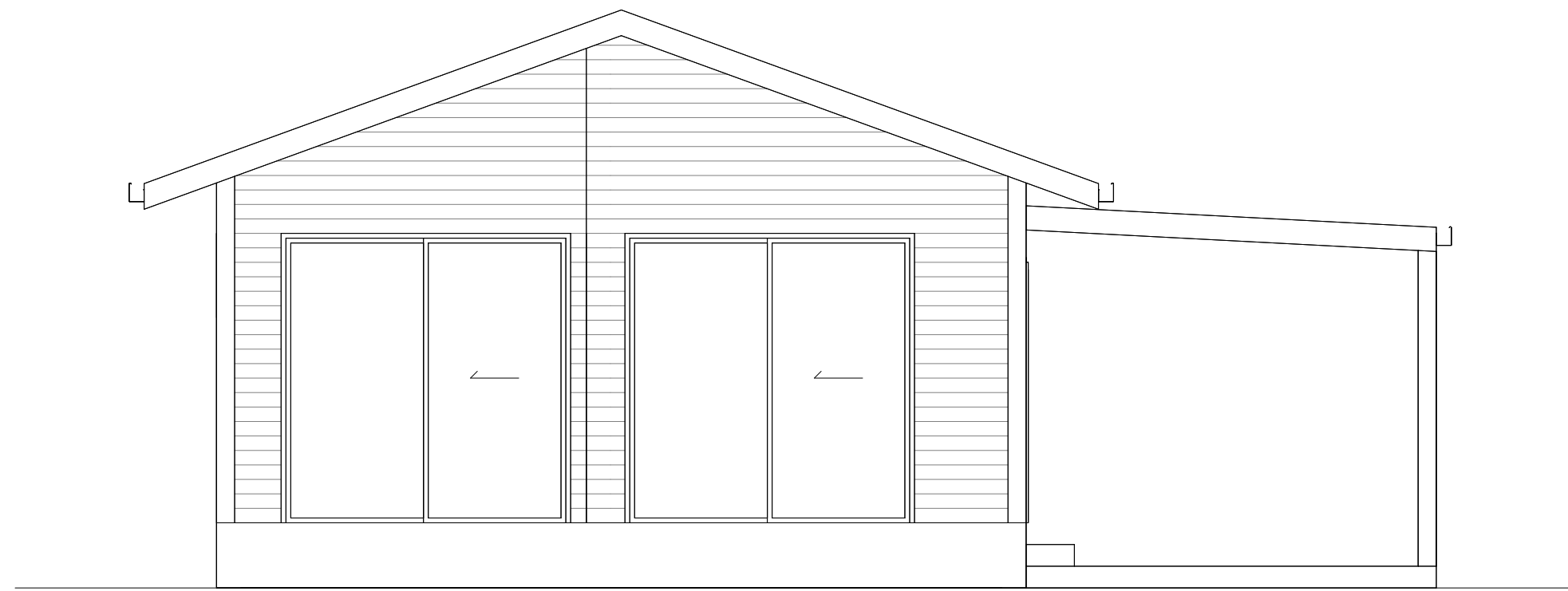
1 BED (65 SQM) FLOOR PLAN
1 : 50



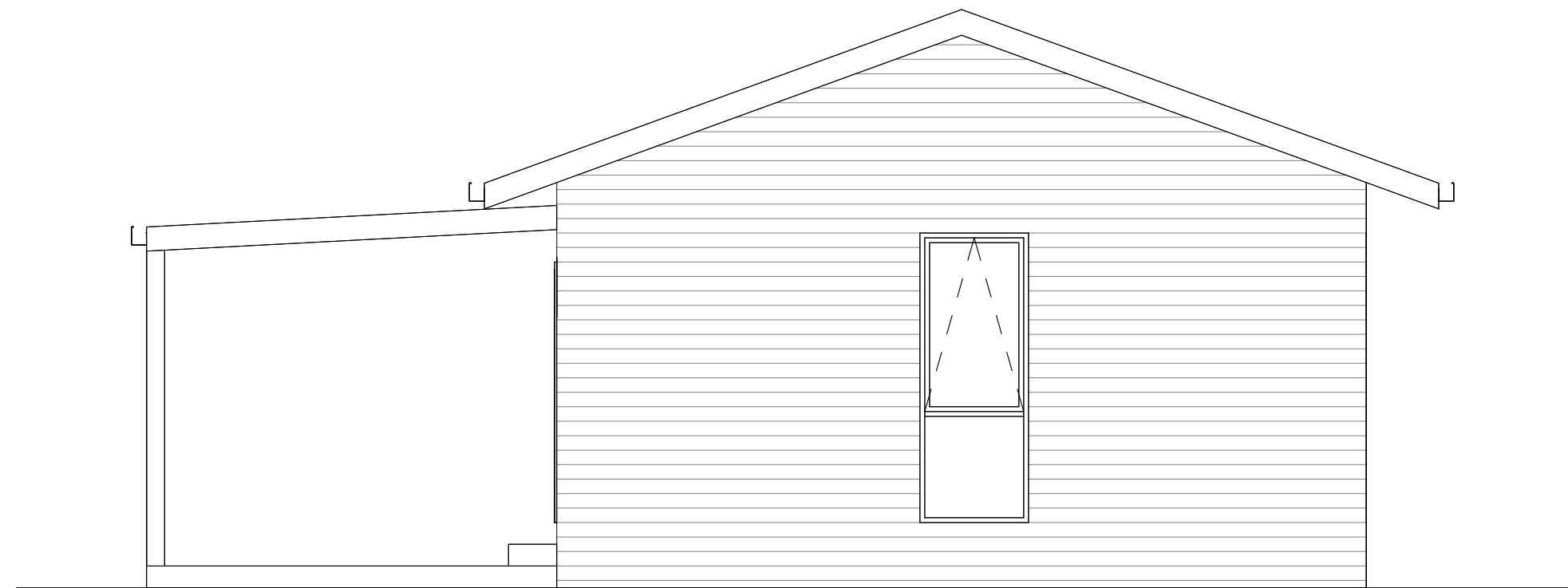
1 BED NORTH ELEVATION
1 : 50



1 BED SOUTH ELEVATION
1 : 50



1 BED WEST ELEVATION
1 : 50



1 BED EAST ELEVATION
1 : 50



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RESOURCE CONSENT
FOR APPROVAL

REV	DATE	DETAILS	INIT
project			
NEW HOUSING WAIMA TOPU B			
drawing			
1 BED (65 SQM) DWELLING TYPOLOGY PLAN & ELEVATIONS			
scale	1 : 50	date	FEB 25
drawn	FB	plot date	18/02/2025 3:05:15 pm
job number	FB24.13	dwg number	RC-007

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F 3 BED FLOOR PLAN
1 : 50



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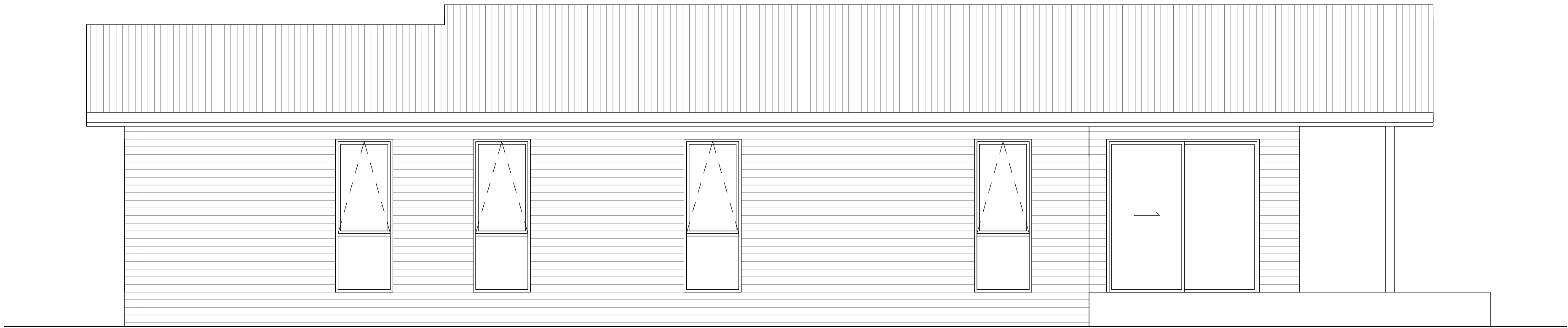
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RESOURCE CONSENT
FOR APPROVAL

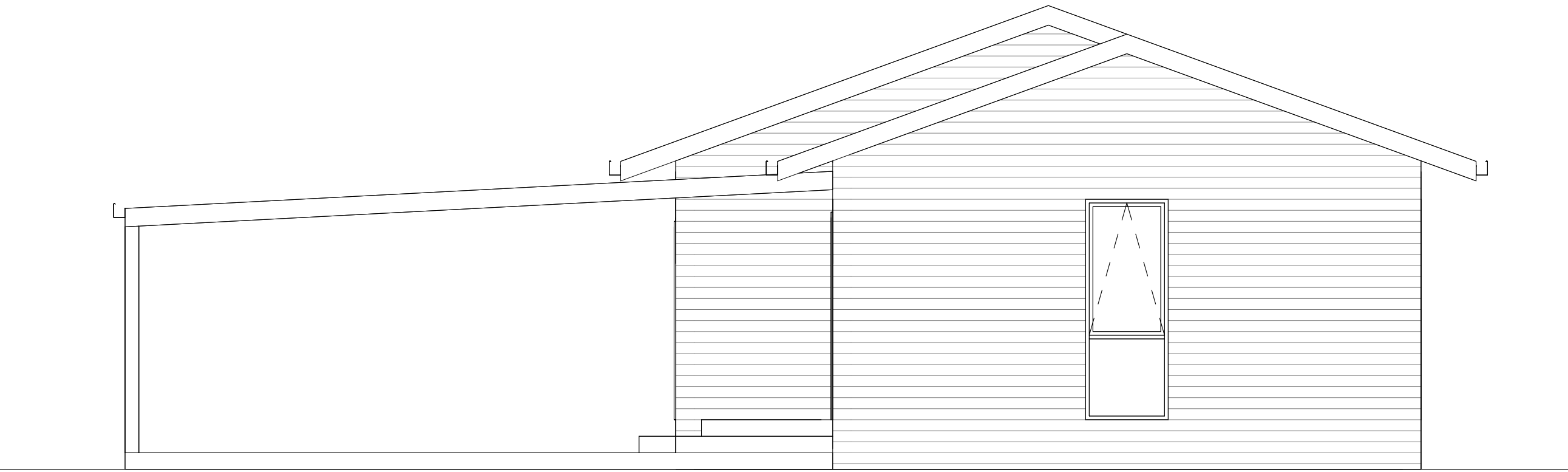
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project			
NEW HOUSING WAIMA TOPU B			
drawing			
3 BED DWELLING TYPOLOGY PLAN			
scale	1 : 50	date	FEB 25 ©
drawn	FB	plot date	18/02/2025 3:05:15 pm
job number	FB24.13	dwg number	RC-008

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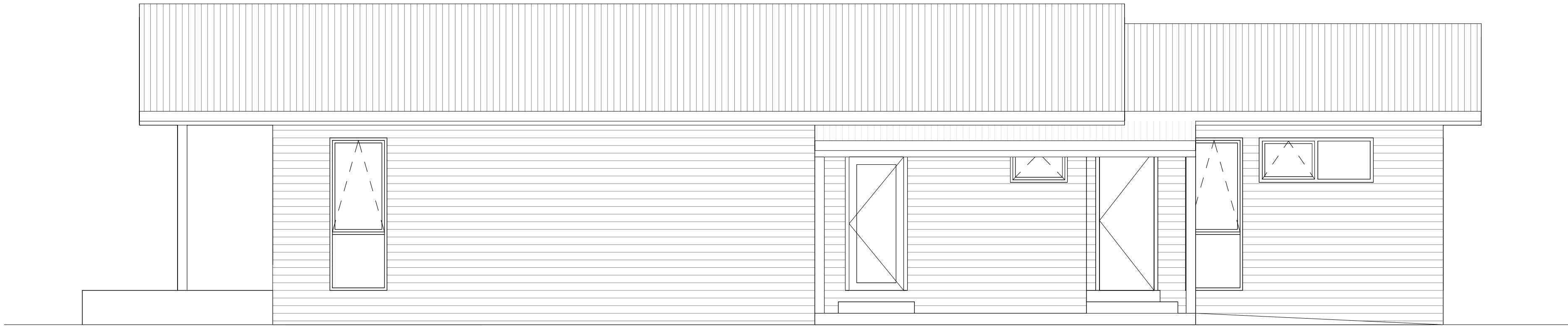
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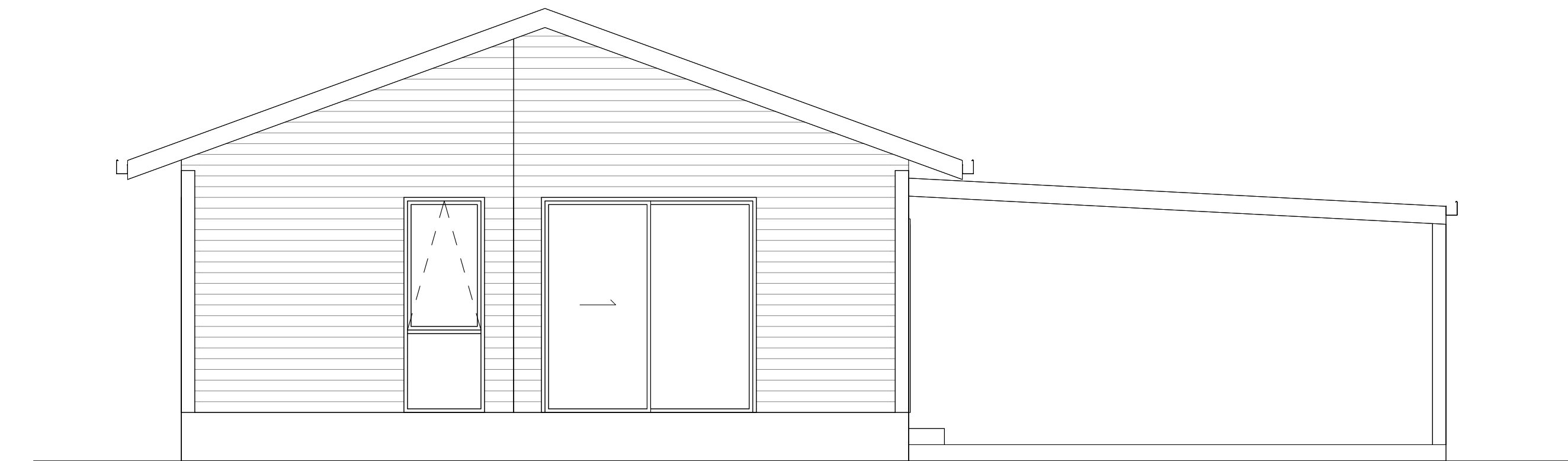
1 3 BED NORTH ELEVATION
RC-008 1 : 50



2 3 BED EAST ELEVATION
RC-008 1 : 50



3 3 BED SOUTH ELEVATION
RC-008 1 : 50



4 3 BED WEST ELEVATION
RC-008 1 : 50



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RESOURCE CONSENT
FOR APPROVAL

REV	DATE	DETAILS	INIT
project			
NEW HOUSING WAIMA TOPU B			
drawing			
3 BED DWELLING TYPOLOGY ELEVATIONS			
scale	1 : 50	@A1	date FEB 25 ©
drawn	FB	plot date	18/02/2025 3:05:15 pm
job number	FB24.13	dwg number	RC-009
issue			

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w. felicitybrenchley.nz



4 BED FLOOR PLAN
1 : 50

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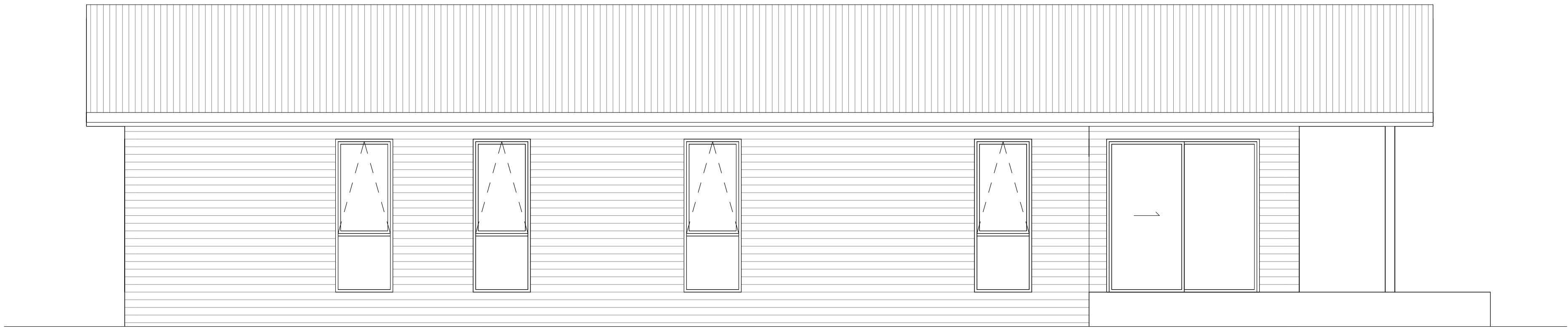
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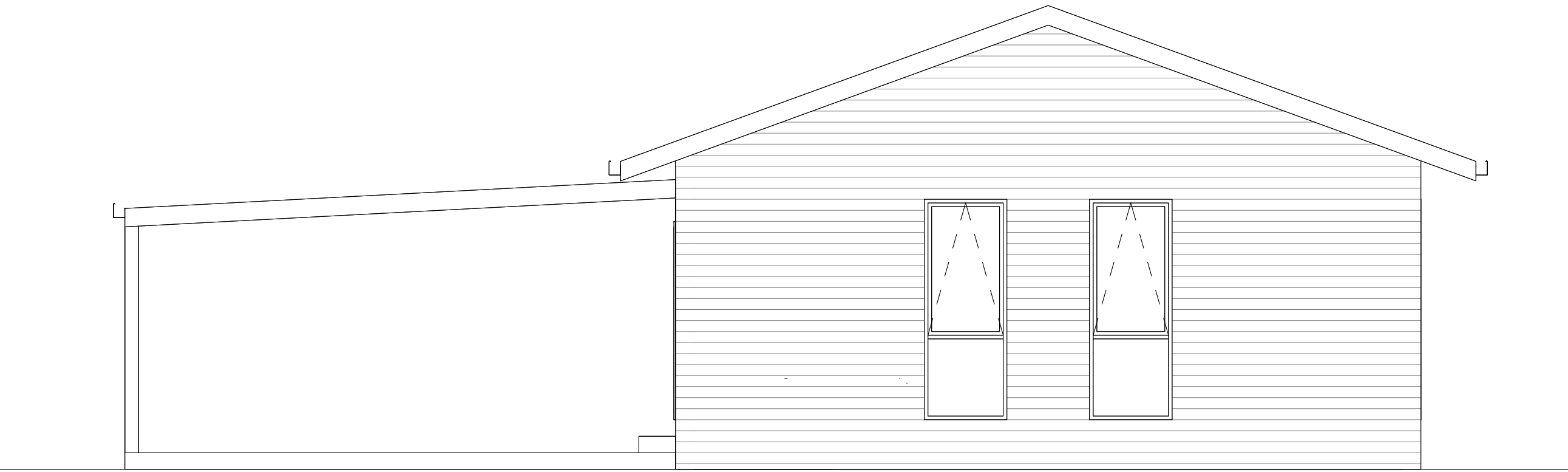
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project			
NEW HOUSING WAIMA TOPU B			
drawing			
4 BED DWELLING TYPOLOGY PLAN			
scale	1 : 50	date	FEB 25
drawn	FB	plot date	18/02/2025 3:05:16 pm
job number	FB24.13	dwg number	RC-010

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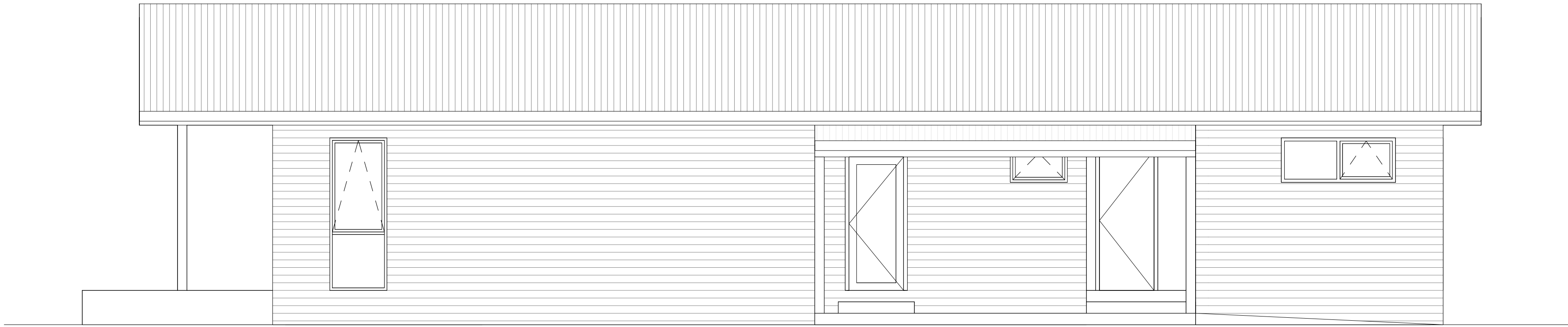
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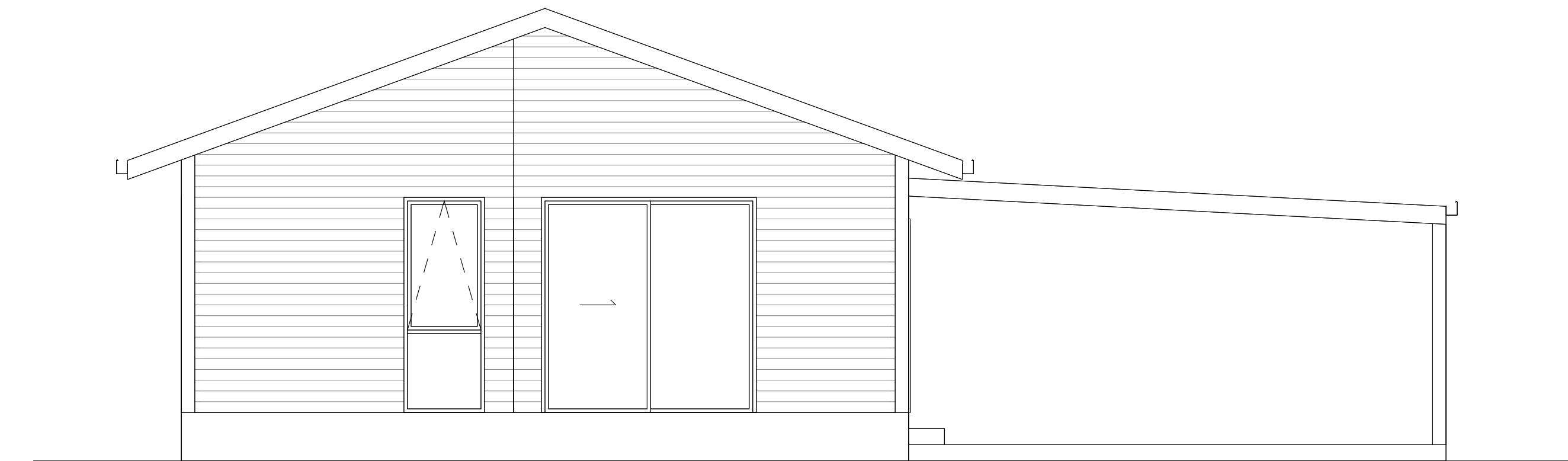
1
RC-010
4 BED NORTH ELEVATION
1 : 50



2
RC-010
4 BED EAST ELEVATION
1 : 50



3
RC-010
4 BED SOUTH ELEVATION
1 : 50



4
RC-010
4 BED WEST ELEVATION
1 : 50



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RESOURCE CONSENT
FOR APPROVAL

REV	DATE	DETAILS	INIT
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project	NEW HOUSING WAIMA TOPU B		
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drawing	4 BED DWELLING TYPOLOGY ELEVATIONS		
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scale	1 : 50	@A1	date FEB 25	©
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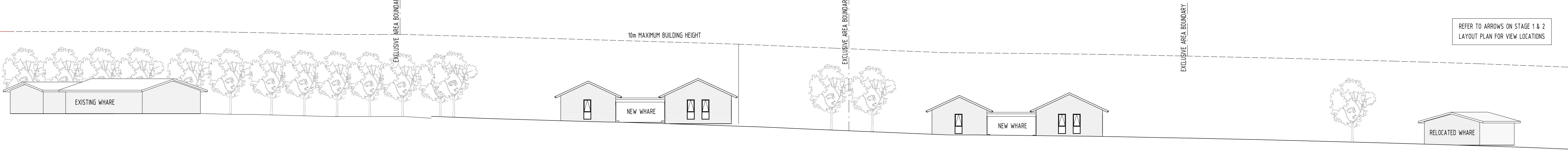
drawn FB	plot date 18/02/2025 3:05:16 pm
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job number FB24.13	dwg number RC-011	issue
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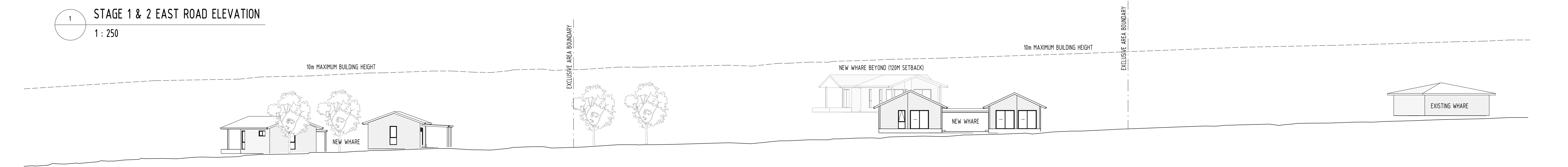
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e. felicity@felicitybrenchley.nz
w. felicitybrenchley.nz

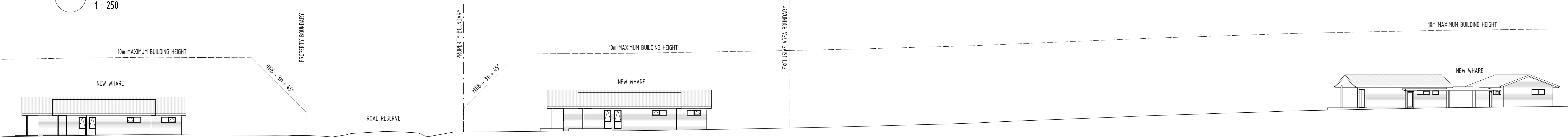
1 STAGE 1 & 2 EAST ROAD ELEVATION
1 : 250



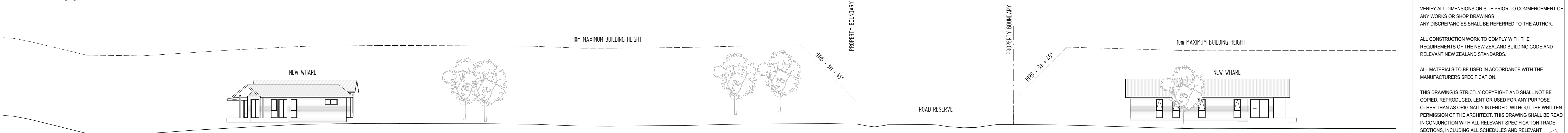
2 STAGE 1 & 2 WEST ROAD ELEVATION
1 : 250



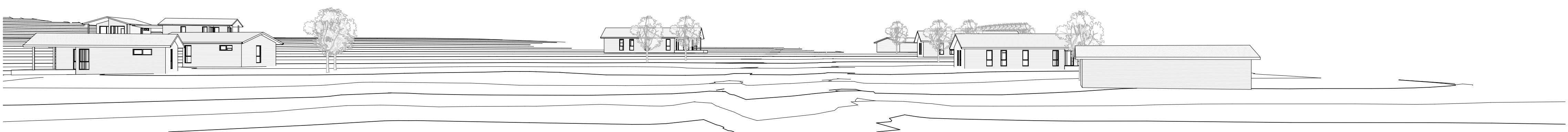
3 STAGE 1 & 2 SOUTH SITE ELEVATION
1 : 250



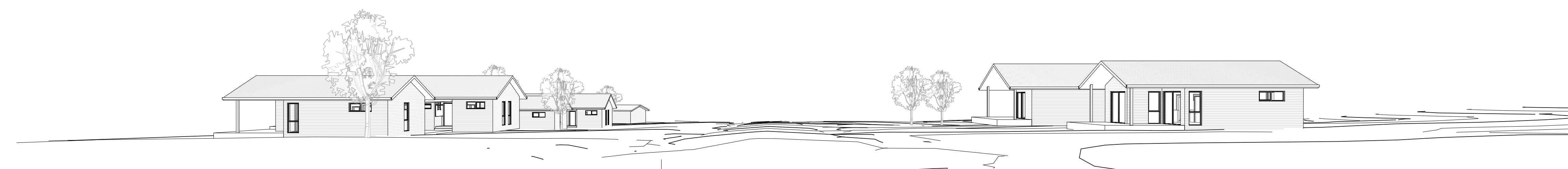
4 STAGE 1 & 2 NORTH SITE ELEVATION
1 : 250



A VIEW ALONG ROAD TRAVELLING SOUTH



B VIEW ALONG ROAD TRAVELLING NORTH



REFER TO ARROWS ON STAGE 1 & 2
LAYOUT PLAN FOR VIEW LOCATIONS

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SECTIONS, INCLUDING ALL SCHEDULES AND RELEVANT
CONSULTANTS DRAWINGS AND SPECIFICATIONS.

RESOURCE CONSENT
FOR APPROVAL

REV	DATE	DETAILS	INIT
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project	NEW HOUSING WAIMA TOPU B		
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drawing	SITE ELEVATIONS		
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scale	1 : 250	@A1	date	FEB 25	©
drawn	FB	plot date	18/02/2025	3:02:28 pm	
job number	FB24.13	dwg number	RC-012	issue	

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16 August 2023

Mihi Harris-Brown
C/- Waima Topu B Trust
PO Box 28
Kaikohe 0440

Reference Number: EBC-2023-1191/0
Property Address: 2907 State Highway 12, Kaikohe 0473
Property ID # 3326617
Description: Foundations for Relocatable Dwelling Install On-Site
Wastewater Disposal System and Decommission OSD on
Waima C30A Block where Dwelling to be Relocated From

Dear Sir / Madam,

Issue of Building Consent

We are pleased to advise that your application has been approved and the Building Consent has been issued. The approved plans and specifications are Attached.

To assist you further in the Building Consent process, the following points should be noted: -

- **Building Consent Documents**

It is your responsibility to ensure:

- **A printed copy of the issued Building Consent documentation is on site at every inspection. Failure to do so could result in a failed inspection.**
- Plans must be printed in colour and be at least A3 size. Specifications may be printed in black and white.
- Ensure all Documentation is kept in order and filed safe free from damage for your inspector to view at each inspection throughout the build.
- Ensure any emailed inspection summaries are available for the next inspection either via electronic or printed copy.

- **Building Consent conditions**

It is important you understand the conditions of the consent and seek any additional information required before you start building (e.g., you may require the help of other professional services such as an engineer). If you do not understand the conditions, have your consent number handy and contact the building team for assistance.

- **Building inspections**

A list of the required inspections for this project is also enclosed. All inspections must be booked with the customer services team on 0800 920 029 or 09 401 5200.

- **Building inspection block**

An inspection block may apply to your project. This means that inspections cannot take place yet. Blocks may be applied if: -

- A Resource Consent, Discharge Consent, or Outline Plan is required. The applicable consent must be issued before the inspection block can be lifted.
- You have not nominated a Licensed Building Practitioner (LBP) to carry out restricted building works. The name(s) of the LBPs to work on your project must be supplied in writing prior to any building works commencing.

- **Additional building inspections**

If additional inspections are required to complete the project, you will be invoiced as per our Fees & Charges Schedule.

- **Final Inspection**

Please make sure your building consent pack is on site and all LBP certificates and statements are available and have been completed in full. If you have not already applied for your CCC please do so and provide your completed application to the inspector at the time of the final inspection.

- **Code Compliance Certificate (CCC)**

When all the nominated inspections have successfully been completed, the owner or their agent/builder can book a Final inspection online or contact our Call Centre on 0800 920029 or 09 4015200.

- **Timeframes**

- Building work should **start within 12 months** of the Building Consent being issued. Failure to do so may result in your application lapsing and you will need to reapply for a new building application. If the work cannot be completed within this timeframe you can apply for an Extension of Time – a fee will apply.
- Building work should be **completed within two years** of the Building Consent being granted. Failure to do so may result in your CCC application being refused. If the work cannot be completed within this timeframe you can apply for an Extension of Time – a fee will apply.

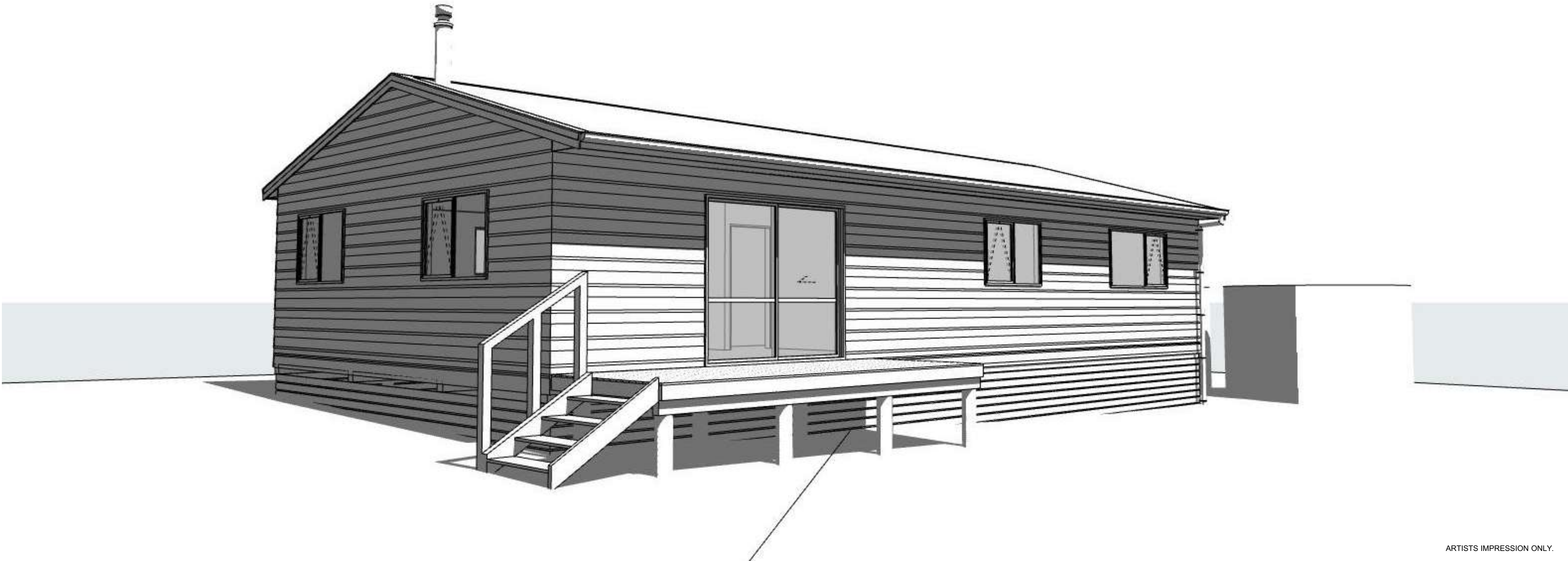
We would like to take this opportunity to thank you for choosing to build in the Far North and look forward to working with you towards a compliant building. Please do not hesitate to contact the Building Team on 0800 920029 or 09 401 5200 if you have any questions or need further assistance.

Yours sincerely,



Trent Blakeman
Manager Building Services
Delivery and Operations

PROPOSED DWELLING RELOCATION FOR
WAIMA TOPU B TRUST
2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473



ARTISTS IMPRESSION ONLY.

Final - Approved Building Consent Document - EBC 2023-149119 - Pg 9 of 36 15/08/2023 - WHANGAREI

DRAWING LIST	
PAGE	DRAWING TITLE
	COVER PAGE
101	PRELIMINARY & GENERAL
102	SITE & SITE DRAINAGE PLAN
201	FLOOR PLAN
202	ELEVATIONS
203	FOUNDATION & DRAINAGE PLAN
204	EXISTING FLOOR/ DECK FRAMING PLANS
205	SUBFLOOR BRACING CALCULATIONS
301	SECTION A-A
401	EXISTING PHOTOS
402	TYPICAL DECK DETAILS
402	TYPICAL CANTILEVER PILE DETAILS
403	TYPICAL BRACED PILE DETAILS
404	TYPICAL LUMBERLOK BRACE PILE FIXINGS

GENERAL NOTES

WIND ZONE IS VERY HIGH

DRAINAGE

PLUMBING & DRAINAGE SYSTEM IS AS PER AS/NZS3500

TIMBER FRAMING

IN ACCORDANCE WITH NZS 3604 DESIGN SPECIFICATIONS ALL TIMBER TO BE SG8 GRADED TIMBER UNLESS OTHERWISE STATED.

ALL STRUCTURAL TIMBER HAS BEEN DESIGNED USING SG8 TIMBER UNLESS OTHERWISE SPECIFIED.

ALL WALL FRAMING & TRUSSES TO BE H1.2 TREATED UNLESS OTHERWISE SPECIFIED.

CONSTRUCTION TO COMPLY WITH NZS 3604:2011, LOCAL BODY BYLAWS & THE NZ BUILDING CODE.

FOUNDATIONS

FOUNDATION DESIGN TO BE SED TIMBER DRIVEN PILES AS PER SITE STABILITY REPORT BY T&A STRUCTURES. FOR WAIMA TOPU BLOCK 12 2981 STATEHIGHWAY 12, WAIMA. DATED 2.04.2020

NOTE

ALL DIMENSION AND UNDERGROUND SERVICE LOCATIONS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORK.

WORK ONLY TO FIGURED DIMENSIONS. IN THE EVENT OF A DISCREPANCY CONTACT THE DESIGNER. DO NOT SCALE FROM THE DRAWINGS.

DO NOT CHANGE ANY DETAILS WITHOUT PRIOR WRITTEN CONSENT OF THE DESIGNER OR OWNER.

THE BUILDING CONTRACTOR/ HOME OWNER IS TO CHECK ALL LEVELS, DIMENSIONS, CONNECTIONS AND MANUFACTURER SPECIFICATIONS PRIOR TO MANUFACTURING OR BEGINNING ANY WORKS TO MAKE SURE THAT ALL MATERIALS AND LABOUR NECESSARY TO COMPLETE THE PROJECT ARE INCLUDED, WHETHER INFERRED, DRAWN ON THE PLANS OR NOT.

LIABILITY WILL NOT BE ACCEPTED BY THE DESIGNER FOR ANY MATERIALS AND LABOUR NOT SHOWN ON THE DRAWINGS OR REQUIRED BY THE LOCAL TERRITORIAL AUTHORITY.

FLOOR PLAN NOTES:

CONTRACTOR IS TO CHECK ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK

ALL JOINERY SIZES ARE TRIM SIZES SUBTRACT 7.5mm EACH SIDE FOR BOX (UNIT) SIZE

CONFIRM KITCHEN LAYOUT WITH OWNER & KITCHEN MANUFACTURER BEFORE COMMENCING PIPEOUT

ALL DIMENSIONS TO FINISHED ROOM SIZES.

EXISTING R1.4 POLYESTER UNDERFLOOR INSULATION.

EXISTING CLADDING: JAMES HARDIE FIBRE CEMENT FRONTIER (310mm) WEATHERBOARDS DIRECT FIXED OVER BUILDING PAPER.

EXISTING ROOFING: CORRUGATED LONGRUN ROOFING WITH PRE-FINISHED BARGE AND RIDGE FLASHINGS.

EXISTING SPOUTING & FASCIA: 150 x 25mm H3.1 PAINTED FASCIA WITH MARLEY CLASSIC INTERNAL CLIP FIXED SPOUTING AND 80Ø UPVC DOWNPIPES.

EXISTING FLOORING: 20mm PARTICLE BOARD

EXISTING WALL & CEILING LININGS: PLASTERBOARD CEILING AND WALL LININGS. PAINT FINISHED.

EXISTING JOINERY: ALUMINIUM SINGLE GLAZED EXTERIOR JOINERY.

EXISTING TIMBER SUBFLOOR: 140 x 45mm JOISTS @ 600 CRS. OVER 3/140 x 45mm TIMBER BEARERS.

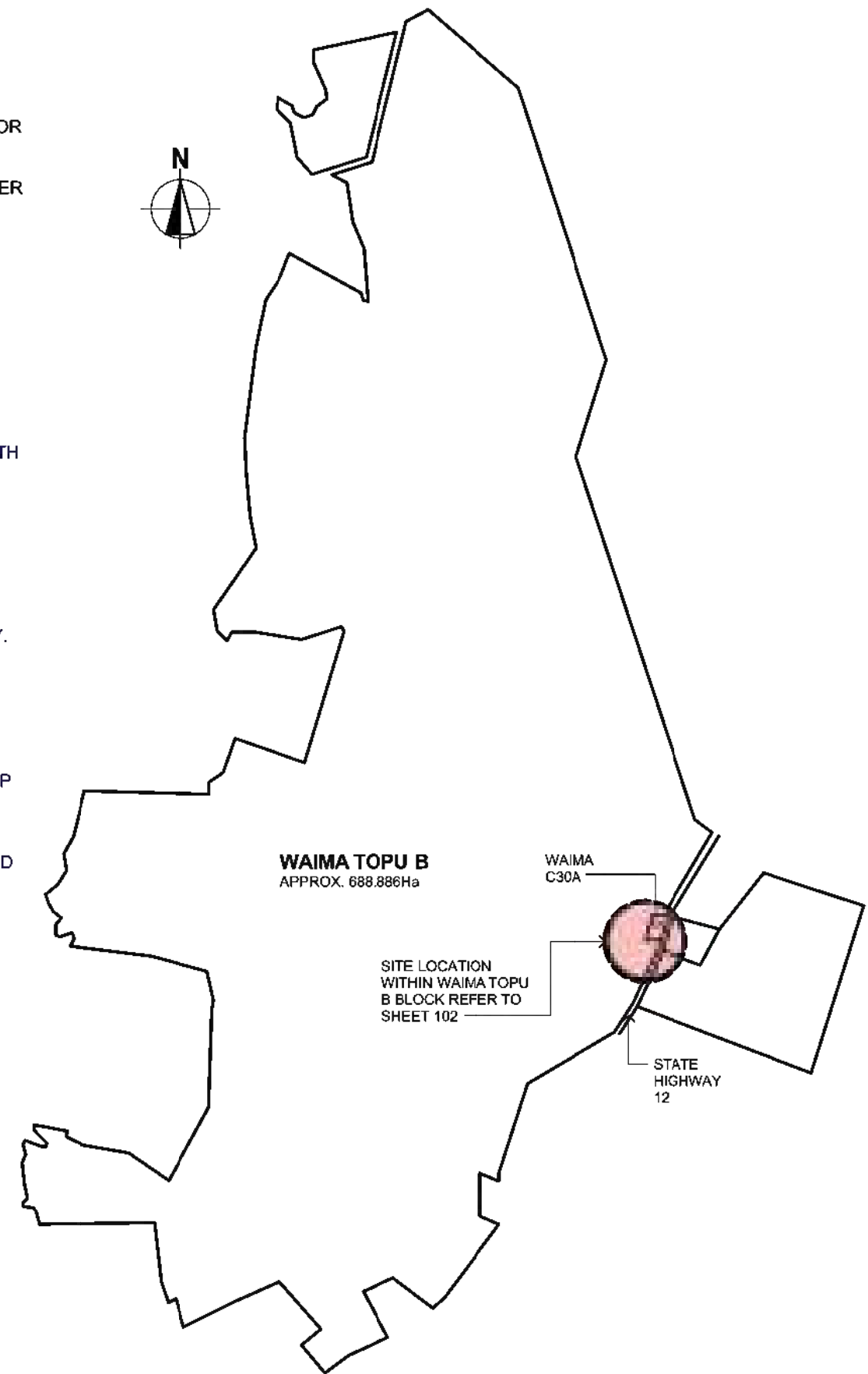
EXISTING MATERIALS NOTES:

CHECK CONDITION OF ALL EXISTING MATERIALS AND WORKMANSHIP ON SITE. REPLACE AND RE-USE WHERE REQUIRED AND WHERE NECESSARY.

PLEASE ENSURE WHERE RE-USING MATERIALS THAT IT IS INSTALLED AS PER ARCHITECTURAL DETAILS AND COMPLIES WITH THE NZ BUILDING CODES.

INSULATION

AS PER NZBC - CLAUSE H1, ENERGY EFFICIENCY - 3RD EDITION & NZS:4218 2004, ENERGY EFFICIENCY - SMALL BUILDING ENVELOPE CLIMATE ZONE 1
TOTAL GLAZING AREA <30%
NON SOLID CONSTRUCTION



SITE LOCALITY PLAN

Scale 1:20000

DAWSON
DESIGN
plans for living

0800 406 161 (09) 432 9188
info@dawsondesign.co.nz

PO BOX 1140, WHANGAREI, 0140

www.dawsondesign.co.nz

NOTES

CONTRACTOR TO CHECK ALL DIMENSIONS & CONDITIONS ON SITE BEFORE COMMENCING WORK.

DO NOT SCALE.

WORK ONLY TO FIGURED DIMENSIONS. IN THE EVENT OF A DISCREPANCY CONTACT THE DESIGNER.

TITLE

PRELIMINARY & GENERAL

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

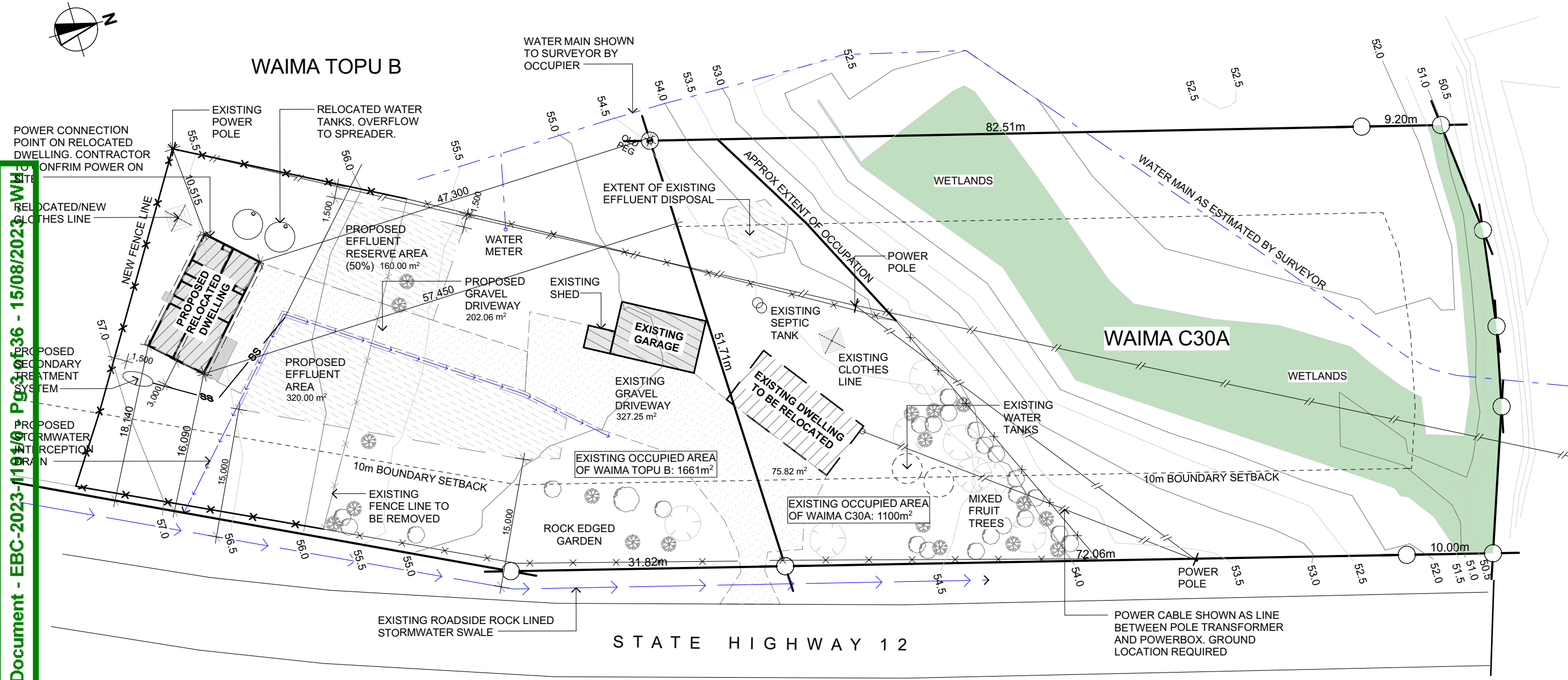
REVISIONS

NO.	REVISION	DATE

SCALE
1:20000

DRAWING CODE	DRAWING ISSUE
101	BC-01

FNDC - Approved Building Consent Document - EBC-2023-119140 Pg 3 of 36 - 15/08/2023 WMA



SITE INFORMATION:

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

LEGAL DESCRIPTION:

WAIMA C30A - 2981 SH12, TAHEKE WAIMA TOPU B BLOCK CT No. NA52B/52

ZONING: FNDC - RURAL PRODUCTION

EARTHQUAKE ZONE: 1
WIND ZONE: VERY HIGH
EXPOSURE ZONE: C
SEASPRAY ZONE: NO
MAX BUILDING HEIGHT 12m

GROSS SITE AREA: 6,888,860

GEOTECHNICAL NOTES:

PLEASE READ IN CONJUNCTION WITH SITE SUITABILITY REPORT BY T&A STRUCTURES DATED 02.04.2020.

SURVEY NOTES:

SITE LEVELS/CONTOURS, EASEMENTS AND SERVICE LOCATIONS ARE TAKEN FROM COUNCIL GIS MAPS, CT, AND ON SITE SURVEY DATA RECORDED BY THE DESIGNER. ALSO REFER TO TOPOGRAPHICAL SURVEY PLAN BY THOMSON SURVEY JOB NO. 8371 DATED 22.11.12 & SITE SETOUT PLAN BY WILLIAMS & KING JOB NO. 22925 DATED 29.06.2020

NOTE:

PLEASE CHECK THE DIMENSIONS TO VERIFY THE SET OUT OF THE BUILDING IS AS REQUESTED, DESIGNERS ACCEPT NO RESPONSIBILITY FOR ELECTRONIC DATA SUPPLIED BY GIS MAPS/ SURVEYOR PLAN FOR THIS SITE.

BUILDING AREAS:

EXISTING GARAGE: 61.58m²
RELOCATED DWELLING: 104.90m²
DECKS: 8.32m²

BUILDING COVERAGE

(INCLUDING COVERED AREAS) 0.002%
(166.48m² / 6,888,860m²)

IMPERMEABLE SURFACE AREAS:

BUILDING AREAS (OVER ROOFS): 168.11m²
DRIVEWAYS, PATIOS & PATHS: 152.52m²

STORMWATER MANAGEMENT

(709.06m² / 6,888,860m²) 0.01%
(MAX 15% BUILDING AREA)

ONSITE WASTEWATER DISPOSAL:

READ IN CONJUNCTION WITH ONSITE WASTEWATER MANAGEMENT SYSTEM FOR RELOCATABLE DWELLING LAND OFF STATEHIGHWAY 12, WAIMA, KAIKOHE WAIMA TOPU B BLOCK. JOB NO. 19064 DATED: 02.04.2019

100Ø WC WASTE WITH 1:60 GRADIENT
65Ø SHOWER WASTE WITH 1:40 GRADIENT
65Ø VANITY/WHB WASTE WITH 1:40 GRADIENT
65Ø SINK WASTE WITH 1:40 GRADIENT
65Ø TUB WASTE WITH 1:40 GRADIENT

DRAINAGE KEY:

SS 100Ø u.P.V.C SEWER
SW 100Ø u.P.V.C STORMWATER
ORG 80Ømm DOWNPIPE
DP 80Ømm DOWNPIPE

PLUMBING & DRAINAGE NOTES:

- ALL PLUMBING & DRAINAGE TO COMPLY WITH AS/NZS3500
- ALL STORMWATER & SEWER PIPES ARE TO BE 100Ø UPVC AT 1:60 MINIMUM GRADIENT.
- DRAIN LAYER IS TO PROVIDE THE COUNCIL WITH AN AS-BUILT DRAINAGE PLAN ON COMPLETION.
- INSPECTION POINTS ARE TO BE PROVIDED AT THE FOLLOWING LOCATIONS:
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 - EVERY CHANGE IN HORIZONTAL DIRECTION GREATER THAN 45°.
 - WITHIN 2.0MTRS OF BUILDING WHERE A DRAIN ENTERS OR EXITS FROM UNDER A BUILDING.
 - AT A DRAIN CONNECTION TO LATERAL.
- VENT PIPES MUST TERMINATE 150mm ABOVE ROOF LEVEL & BE FITTED WITH BIRD EXCLUDER.
- CONTRACTOR IS TO CHECK THE LOCATION OF ALL EXISTING CONNECTIONS & FALLS BEFORE COMMENCING ANY BUILDING WORK.

SITE & SITE DRAINAGE PLAN

Scale 1:500

0800 406 161 (09) 432 9188
info@dawsondesign.co.nz
PO BOX 1140, WHANGAREI, 0140
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NOTES

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TITLE

SITE & SITE DRAINAGE PLAN

ISSUE DATE	7/08/2020
JOB NO.	20018
DRAWN BY	DF
CHECKED BY	CD

PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

REVISIONS

NO.	REVISION	DATE

SCALE

1:500

DRAWING CODE	DRAWING ISSUE
102	BC-01

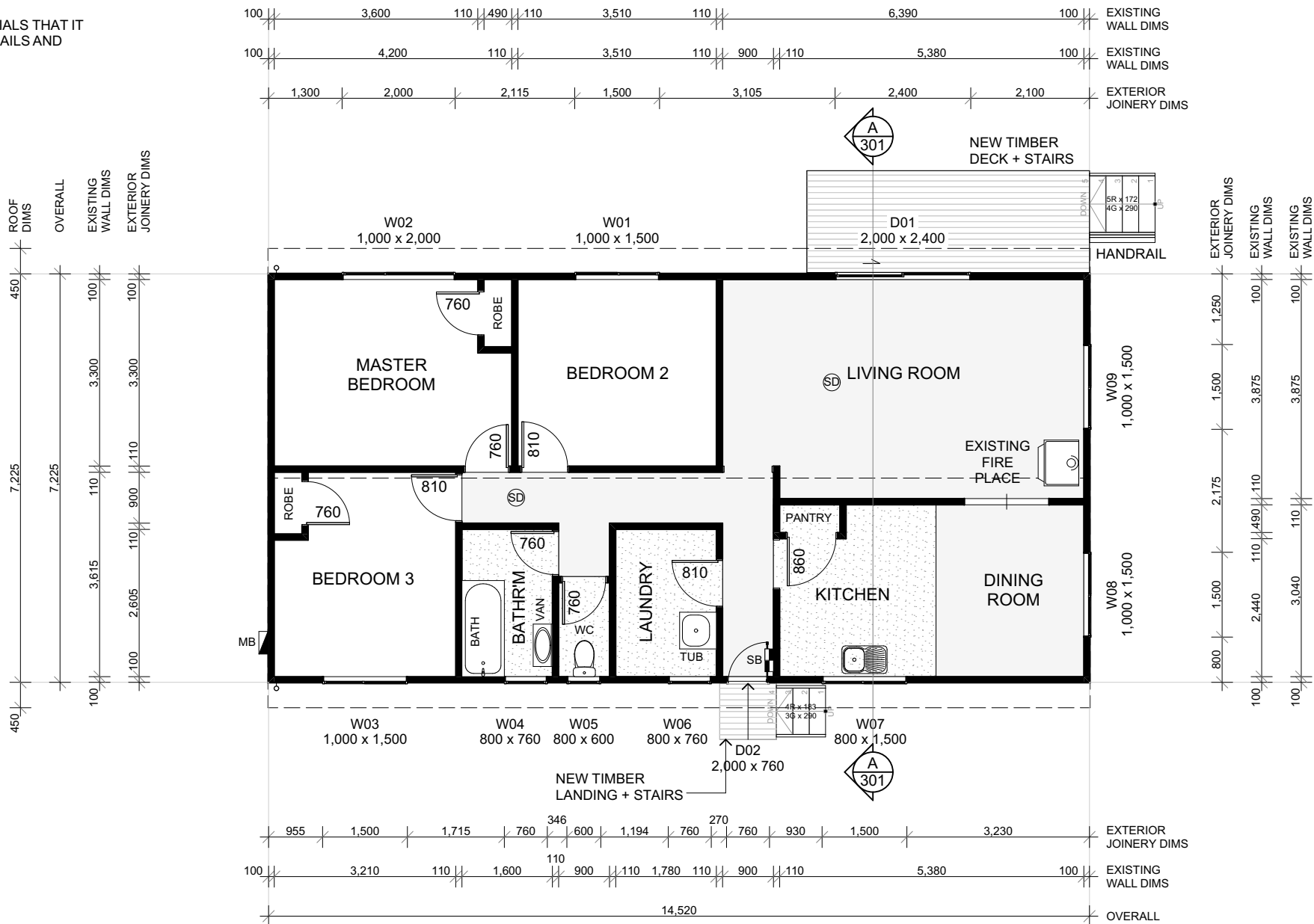
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EXISTING FLOOR PLAN

Scale 1:100

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FLOOR PLAN

ISSUE DATE 7/08/2020

JOB NO. 20018

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CHECKED BY CD

PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

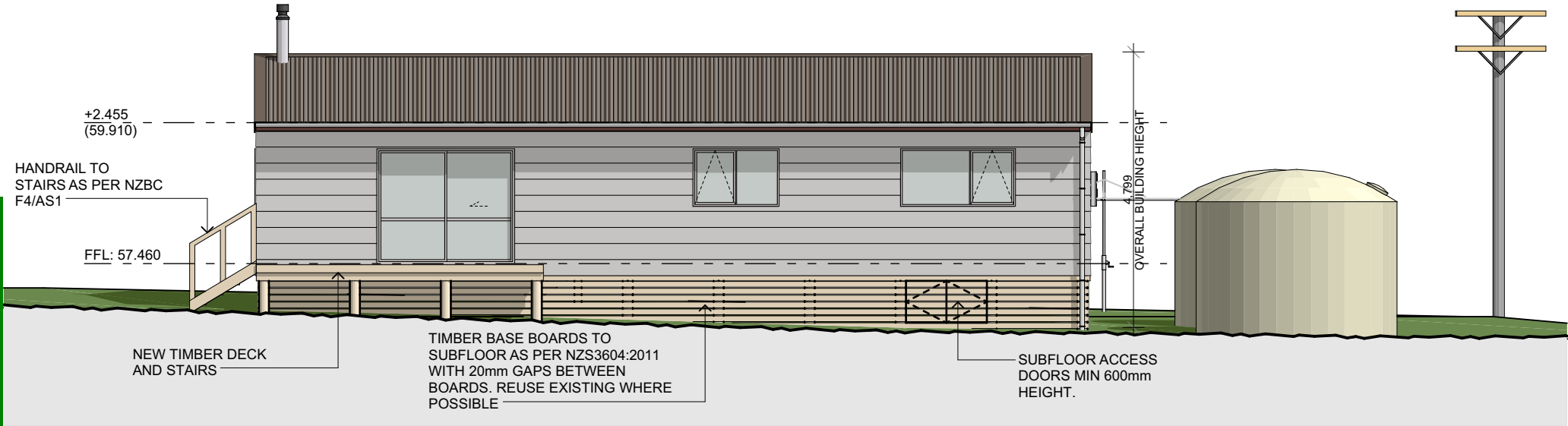
REVISIONS

NO.	REVISION	DATE

SCALE

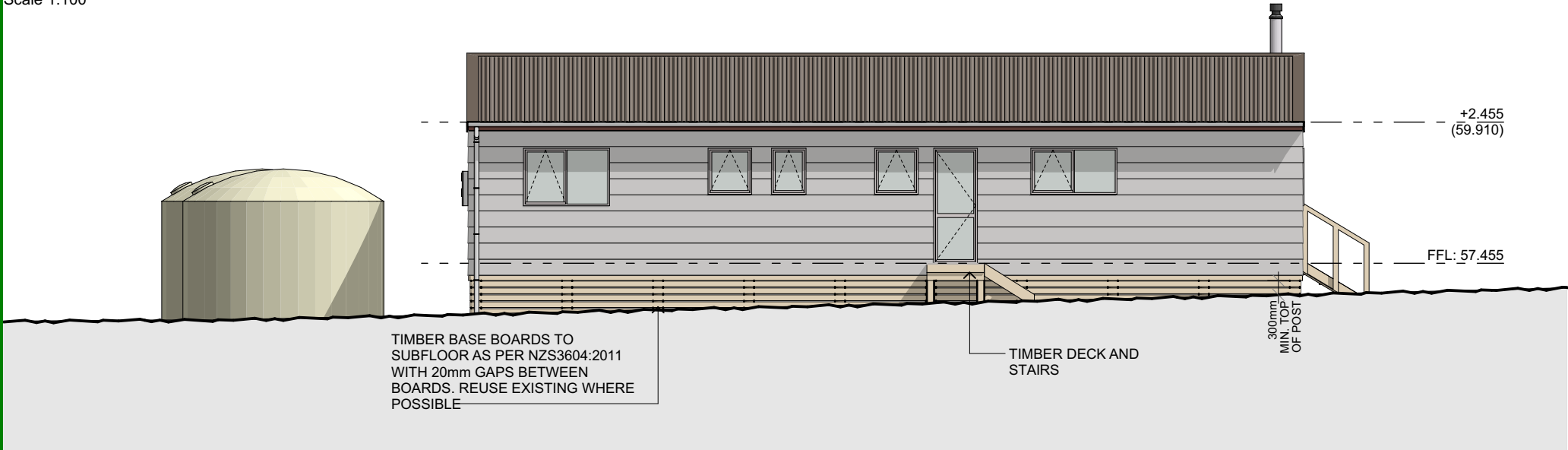
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DRAWING CODE	DRAWING ISSUE
201	BC-01



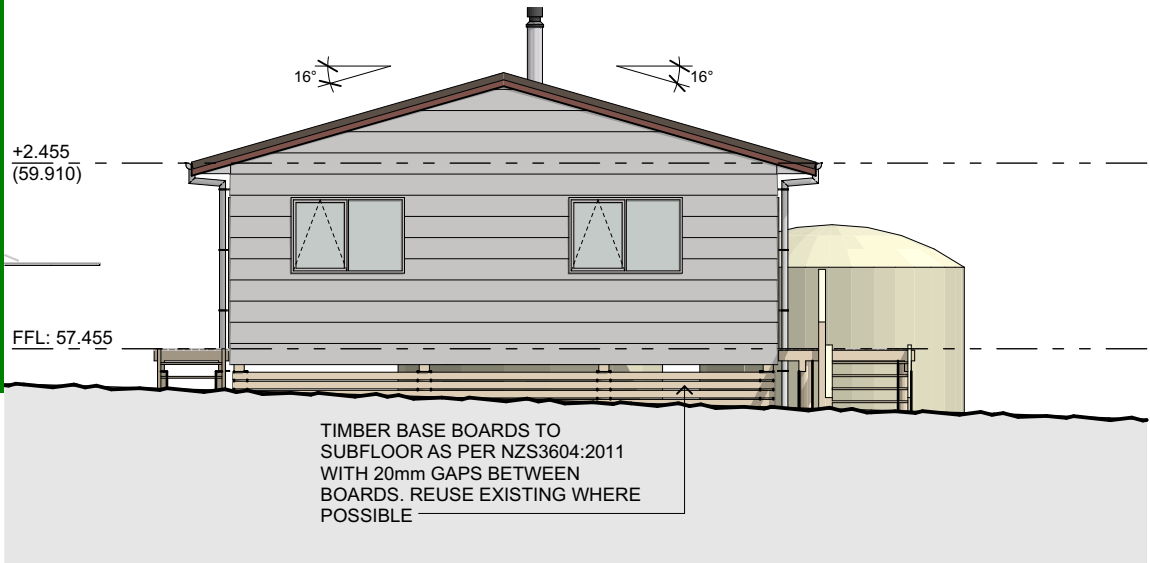
NORTHERN ELEVATION

Scale 1:100



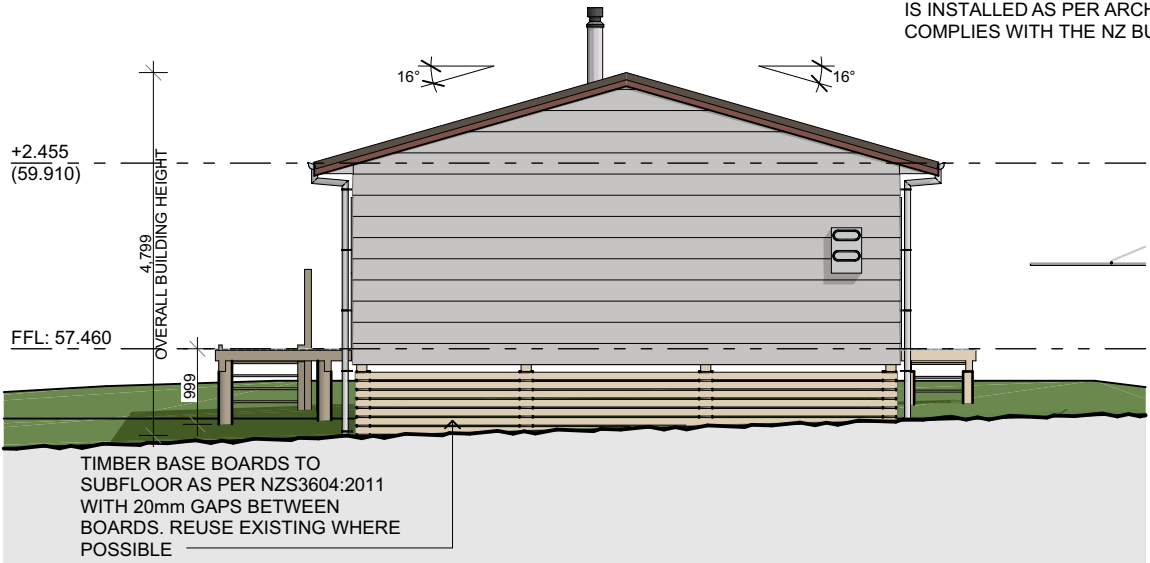
SOUTHERN ELEVATION

Scale 1:100



EASTERN ELEVATION

Scale 1:100



WESTERN ELEVATION

Scale 1:100

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		8

ELEVATION NOTES

- EXISTING ROOFING**
16° CORRUGATED LONGRUN ROOFING WITH PRE-FINISHED RIDGE/BARGE FLASHINGS.
- FASCIA SPOUTING & DOWNPIPES**
150 x 25mm H3.1 PAINTED TIMBER FASCIA WITH UPVC MARLEY CLASSIC GUTTER WITH INTERNAL CLIP FIXINGS WITH 80Ømm UPVC DOWNPIPES.
- SOFFIT LINING**
EXISTING FIBRE CEMENT SOFFIT LINING WITH PVC JOINTERS.
- EXISTING WEATHERBOARDS (DIRECT FIX)**
JAMES HARDIE WEATHERBOARDS (FRONTIER 310mm OR SIMILAR) DIRECT FIXED OVER BUILDING WRAP.
- JOINERY**
ALUMINIUM JOINERY SINGLE GLAZED ALUMINIUM HEAD FLASHINGS.

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ELEVATIONS

ISSUE DATE 7/08/2020

JOB NO. 20018

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CHECKED BY CD

PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

REVISIONS

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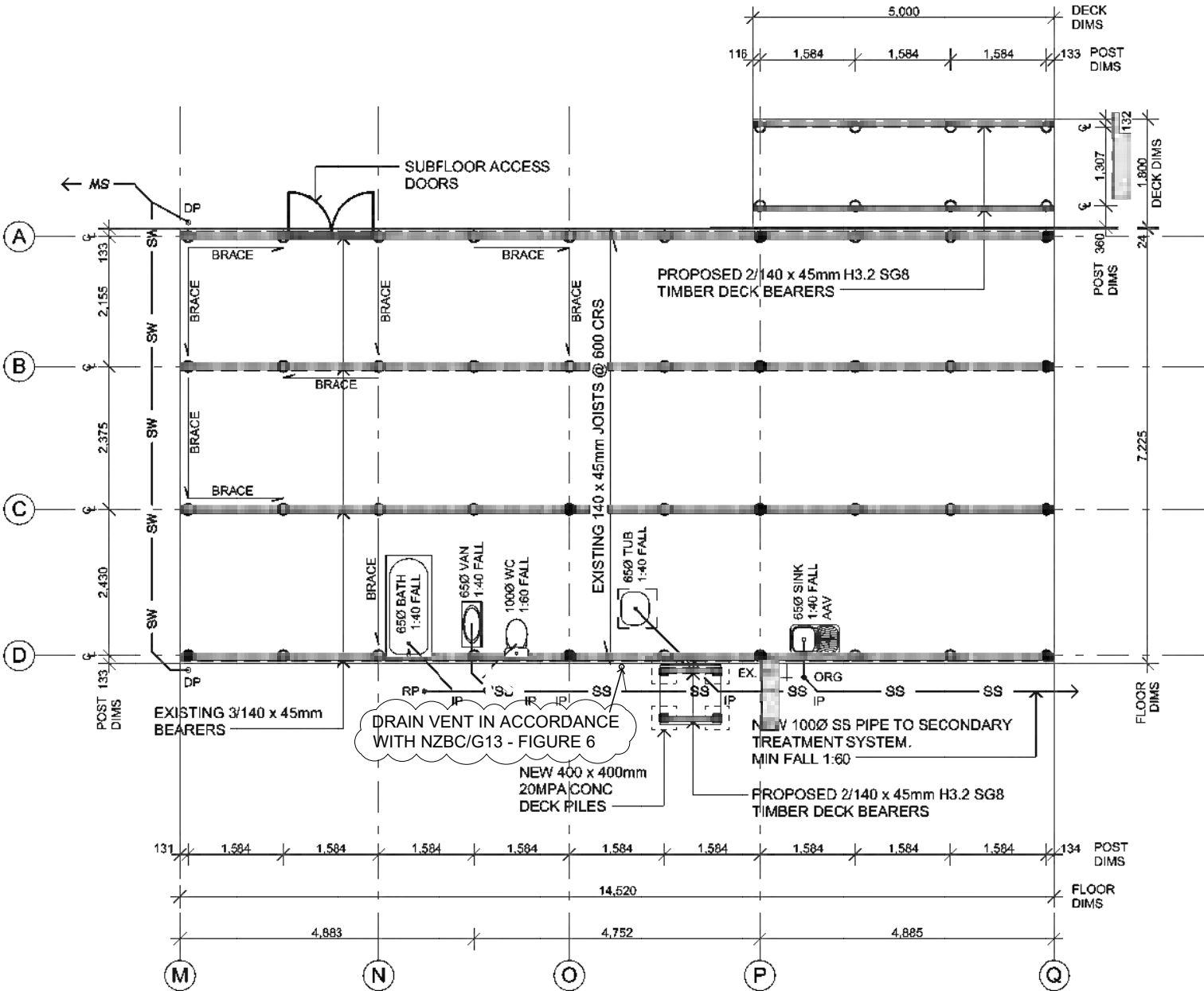
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DRAWING CODE	DRAWING ISSUE
202	BC-01

DRAINAGE KEY:

- TV • 80Ø TV EXTERIOR
SS 100Ø u.P.V.C SEWER
SW - 100Ø u.P.V.C STORMWATER
ORG • ORG (OVERFLOW RELIEF GULLY)
HT † HOSE TAP
DP • 80Ømm DOWNPIPE
RP • RODDING POINT



FOOTINGS NOTES

1. ALL PILES TO BE CONNECTED TO BEARERS AS PER NZS3604:2011 (STAINLESS STEEL FIXINGS WHERE EXPOSED).
2. ALL CANTILEVER PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 6kN PILE FIXINGS FOR CANTILEVER PILES.
3. ALL BRACED PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 12kN PILE FIXINGS FOR BRACED PILES.
4. WHERE 6kN/12kN OUTSIDE FACE JOIST-BEARER FIXINGS ARE NOT ACCESSIBLE USE S/S LUMBERLOK 12kN RETRO SUBFLOOR FIXINGS.
5. ALL 175Ø H5 SED PILES ARE TO BE DRIVEN IN ACCORDANCE WITH RECOMMENDATIONS SET OUT BY THE SITE SUITABILITY REPORT BY T&A STRUCTURES. DATED 02.04.2020.
6. ALL PILES ARE TO BE H5 TREATED
7. CONTRACTOR IS TO CHECK ALL PRE-EXISTING MEASUREMENTS WITH DIMENSIONS SHOWN ON PLAN BEFORE COMMENCING ANY WORK OR ORDERING ANY MATERIALS.
8. CONTRACTOR IS TO LOCATE ALL PHONE, POWER & DATA CABLES PRIOR TO COMMENCING WORKS.
9. CONTRACTOR IS TO LOCATE ALL STORMWATER, SEWER, GAS & WATER PIPES PRIOR TO COMMENCING ANY WORKS.
10. ALL DRIVEN TIMBER PILES TO BE IN ACCORDANCE WITH NZS3604:2001.
11. ALL DRIVEN PILES TO BE IN ACCORDANCE WITH 3640:2003.
12. PILE SETS AS RECOMMENDED BY ENGINEER
 - FOR 200KG HAMMER FALLING 2.4m (15mm FINAL SET)
 - FOR 500KG HAMMER FALLING 1.0m (20mm FINAL SET).

GEOTECHNICAL NOTES:

PLEASE READ IN CONJUNCTION WITH SITE SUITABILITY REPORT BY T&A STRUCTURES DATED 02.04.2020.

KEY:

- TYPICAL TIMBER DRIVEN PILE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TYPICAL TIMBER DRIVEN CANTILEVER PILE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TOP BRACE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)

PLUMBING & DRAINAGE NOTES:

1. ALL PLUMBING & DRAINAGE TO COMPLY WITH AS/NZS3500
2. ALL STORMWATER & SEWER PIPES ARE TO BE 100Ø UPVC AT 1:60 MINIMUM GRADIENT.
3. DRAINLAYER IS TO PROVIDE THE COUNCIL WITH AN AS-BUILT DRAINAGE PLAN ON COMPLETION.
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- 65Ø SINK WASTE WITH 1:40 GRADIENT
- 65Ø TUB WASTE WITH 1:40 GRADIENT

- 175Ø H5 SED DRIVEN TIMBER PILES SET MIN 2.5M BELOW GL IN ACCORDANCE WITH T & A STRUCTURES SITE SUITABILITY REPORT

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TITLE

FOUNDATION & DRAINAGE PLAN

ISSUE DATE 7/08/2020
JOB NO. 20018
DRAWN BY DF
CHECKED BY CD

PROJECT
PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST
2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

REVISIONS
NO. REVISION DATE

SCALE
1:100

DRAWING CODE 203
DRAWING ISSUE BC-01

NOTES:

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FOUNDATION PLAN

Scale 1:100

NOTES:

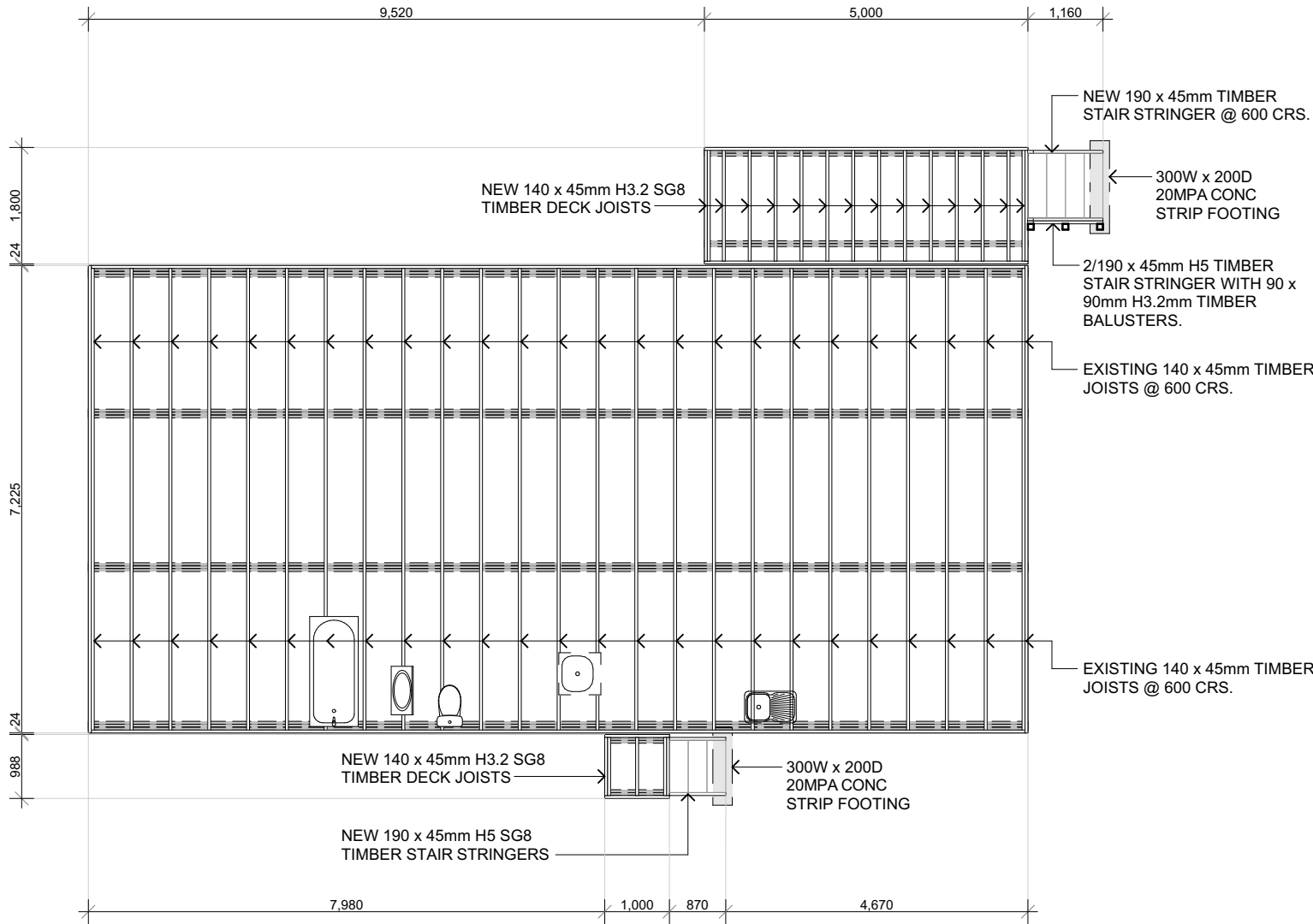
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SUBFLOOR FRAMING NOTES:

1. ALL EXPOSED & STRUCTURAL FIXINGS ARE TO BE STAINLESS STEEL
2. ALL STRUCTURAL TIMBER HAS BEEN DESIGNED USING SG8 (1.8/2.0kPa)
3. 140 x 45mm H3.2 SG8 SOLID BLOCKING - MID SPAN BLOCKING @1.8m APPART
4. 0.4 NON SLIP TO PROVIDE SLIP RESISTANCE TO COMPLY WITH AS/NZS 3661.
5. CONTRACTOR IS TO SEAL ALL CUT TIMBER ENDS WITH METALEX TIMBER PRESERVATIVE OR SIMILAR.
6. ALL DECKING TO BE MIN. 100 x 25mm H3.2

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NOTES

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TITLE

EXISTING FLOOR/
DECK FRAMING
PLANS

ISSUE DATE	7/08/2020
JOB NO.	20018
DRAWN BY	DF
CHECKED BY	CD

PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

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SCALE

1:100

DRAWING CODE	DRAWING ISSUE
204	BC-01

FLOOR/ DECK FRAMING PLANS

Scale 1:100

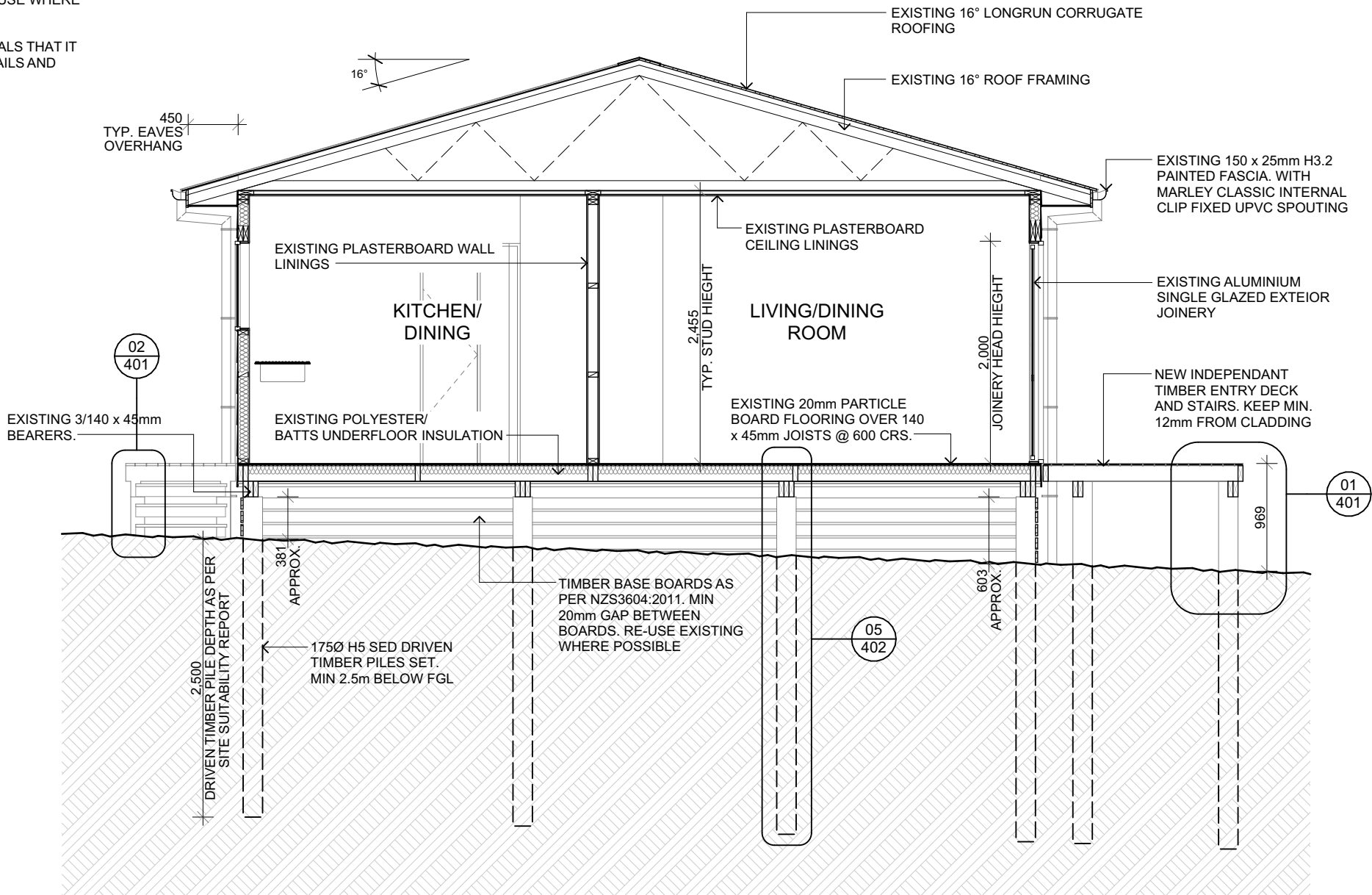
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SECTION A-A

Scale 1:50

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TITLE

SECTION A-A

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WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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REVISIONS

NO.	REVISION	DATE

SCALE

1:50

DRAWING CODE DRAWING ISSUE

301

BC-01

FNDC Approved Building Consent Document - EBC-2020-119110 - Pg 10 of 36 - 15/09/2020



EASTERN ELEVATION



SOUTHERN ELEVATION



SOUTHERN/WESTERN ELEVATION



NORTHERN ELEVATION

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TITLE

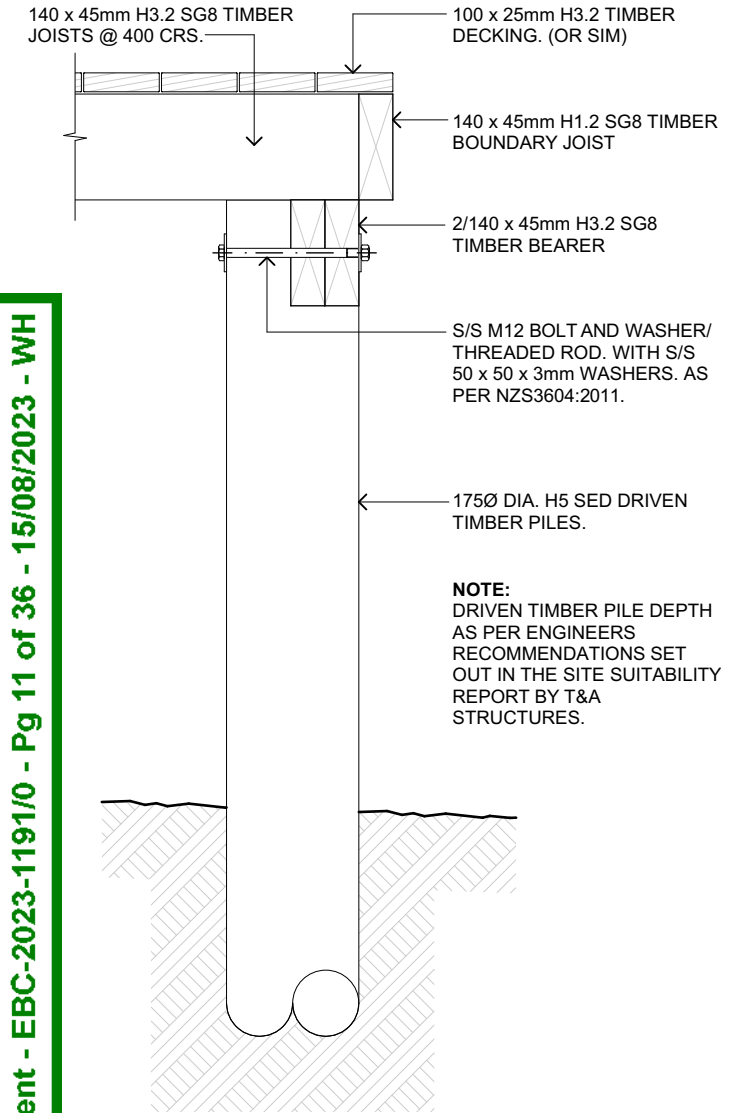
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ISSUE DATE 7/08/2020
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2981 STATE HIGHWAY 12,
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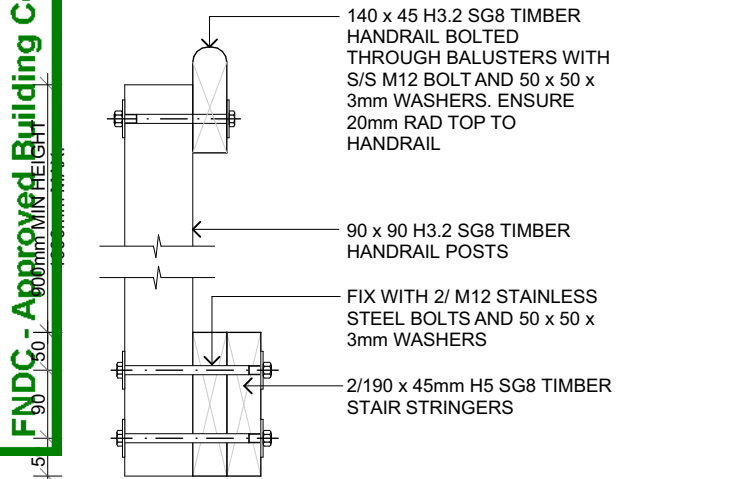
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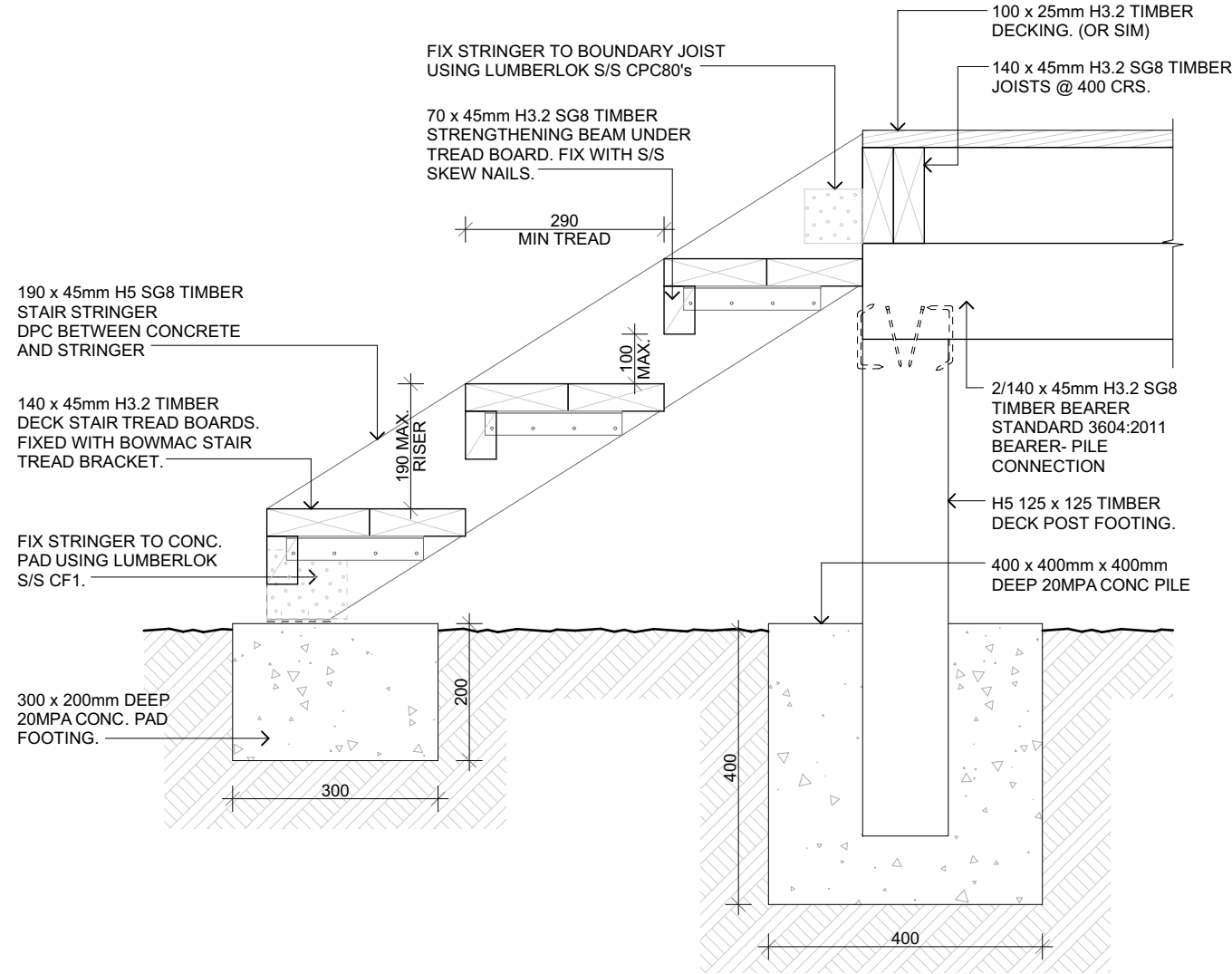
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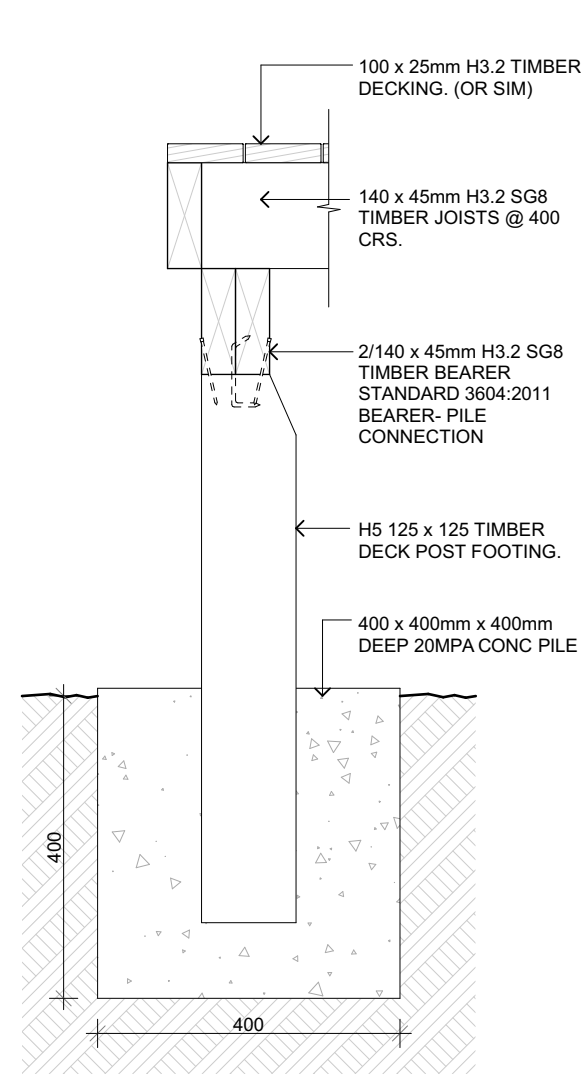
01 TYP. DECK BEARER CONNECTION
01 Scale 1:10



04 TYPICAL BALUSTER CONNECTION
- Scale 1:10



02 TYP. DECK STAIR DETAILS
301 Scale 1:10



03 TYPICAL LANDING DETAIL
- Scale 1:10

NOTES:

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TITLE

TYPICAL DECK DETAILS

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PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

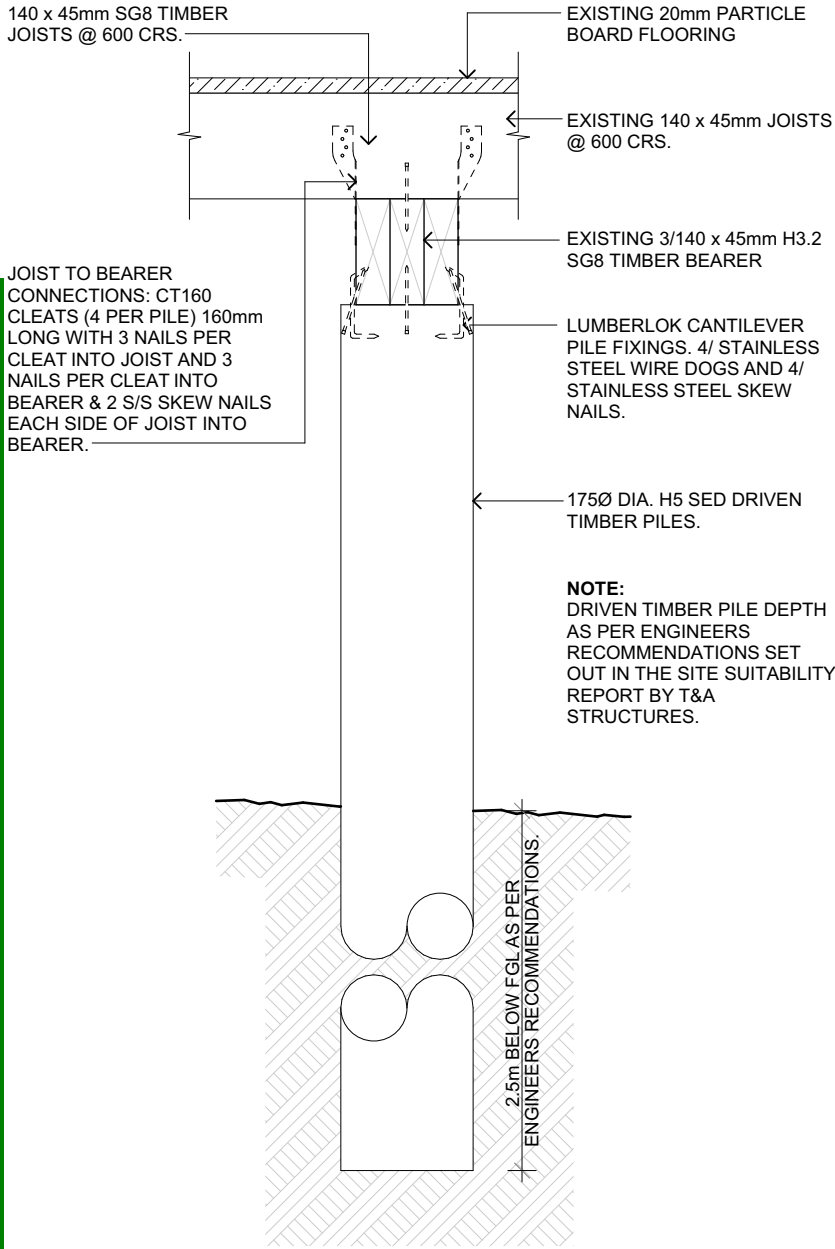
2981 STATE HIGHWAY 12,
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REVISIONS

NO.	REVISION	DATE

SCALE
1:10

DRAWING CODE	DRAWING ISSUE
401	BC-01



05 TYP. CANTILEVER PILE DETAIL
301 Scale 1:10

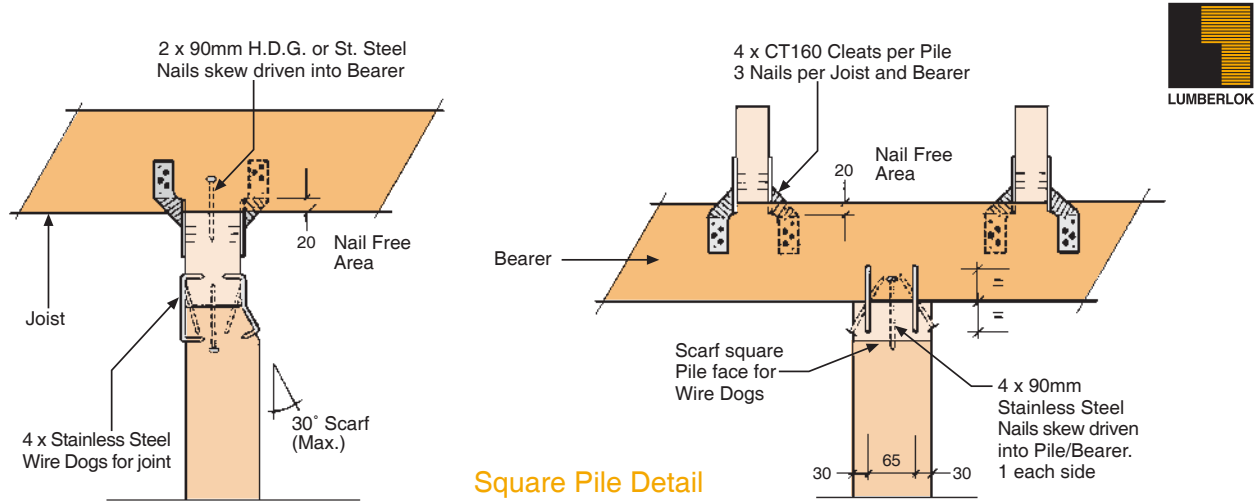
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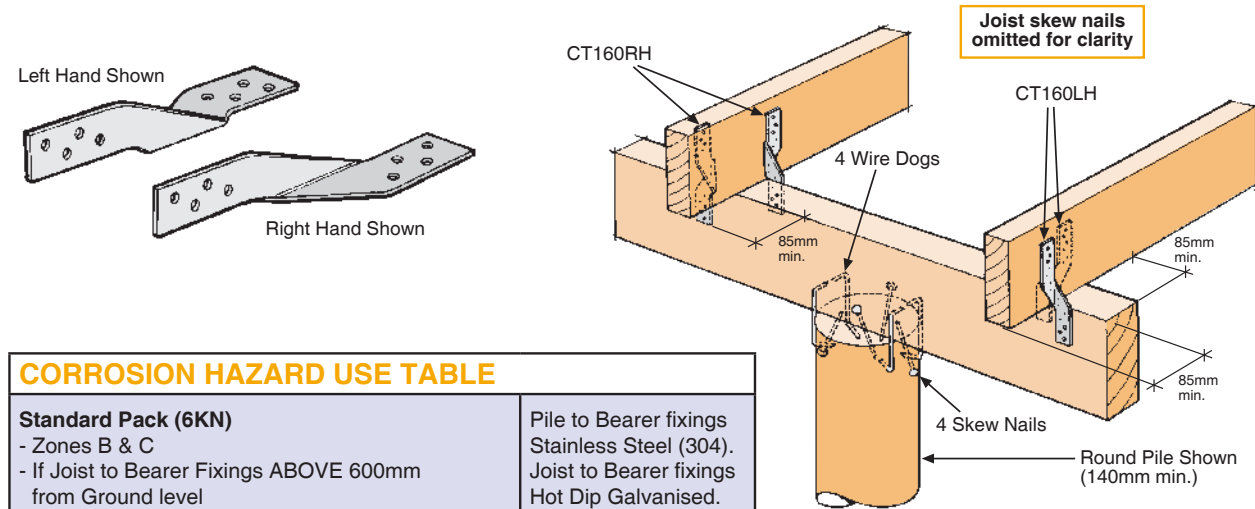
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Square Pile Detail

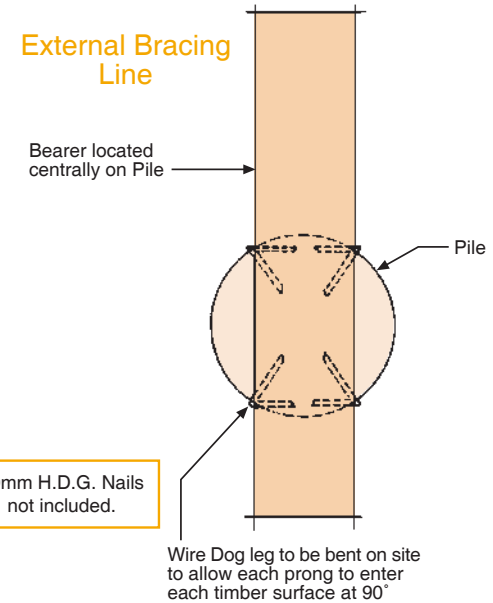


CORROSION HAZARD USE TABLE	
Standard Pack (6KN) - Zones B & C - If Joist to Bearer Fixings ABOVE 600mm from Ground level	Pile to Bearer fixings Stainless Steel (304). Joist to Bearer fixings Hot Dip Galvanised.
High Corrosion Pack (6KNH) - Zone D - All Fixings BELOW 600mm from Ground level	All items Stainless Steel (304).

6kN Joint Fixing Schedule

PILE TO BEARER	- Wire Dog Staples (4 per joint) Stainless Steel - 4 x 90mm Skew Nails (1 per face) Stainless Steel
JOIST TO BEARER	- CT160 Cleats (4 per pile) 160mm long - 3 Nails per Cleat into Joist - 3 Nails per Cleat into Bearer - 2 Skew Nails 90mm (1 per side)
NAILS	- 24 x 45mm x 3.55 dia. Spiral Nails (for Joist to Bearer fixings) - 4 x 90mm x 4 dia. St. Steel Nails (6KN Pack only) - 8 x 90mm x 4 dia. St. Steel Nails (6KNH Pack only)

6kN Pile Set Contents Each set represents 1 x 6kN Pile Fixing (packed 10 sets per carton)	
4 x Wire Dog Staples Stainless Steel	} Refer front page for Product Finish Options
4 x CT160 Cleats	
24 x 45mm x 3.55 dia. Spiral Nails	
90mm St. Steel Nails to suit 4 - 6KN pack	
8 - 6KNH pack	



6 FOUNDATION/SUBFLOOR

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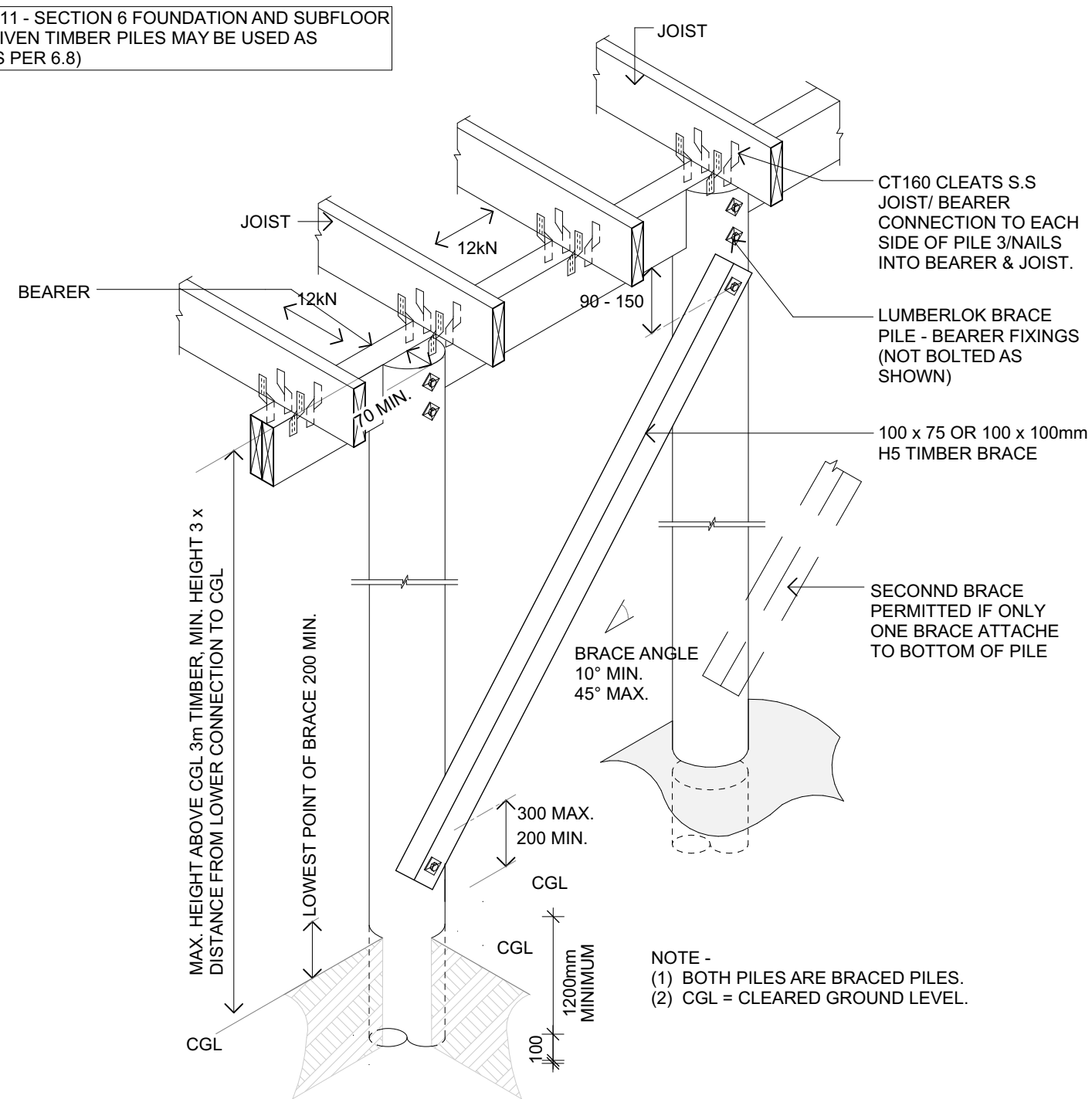
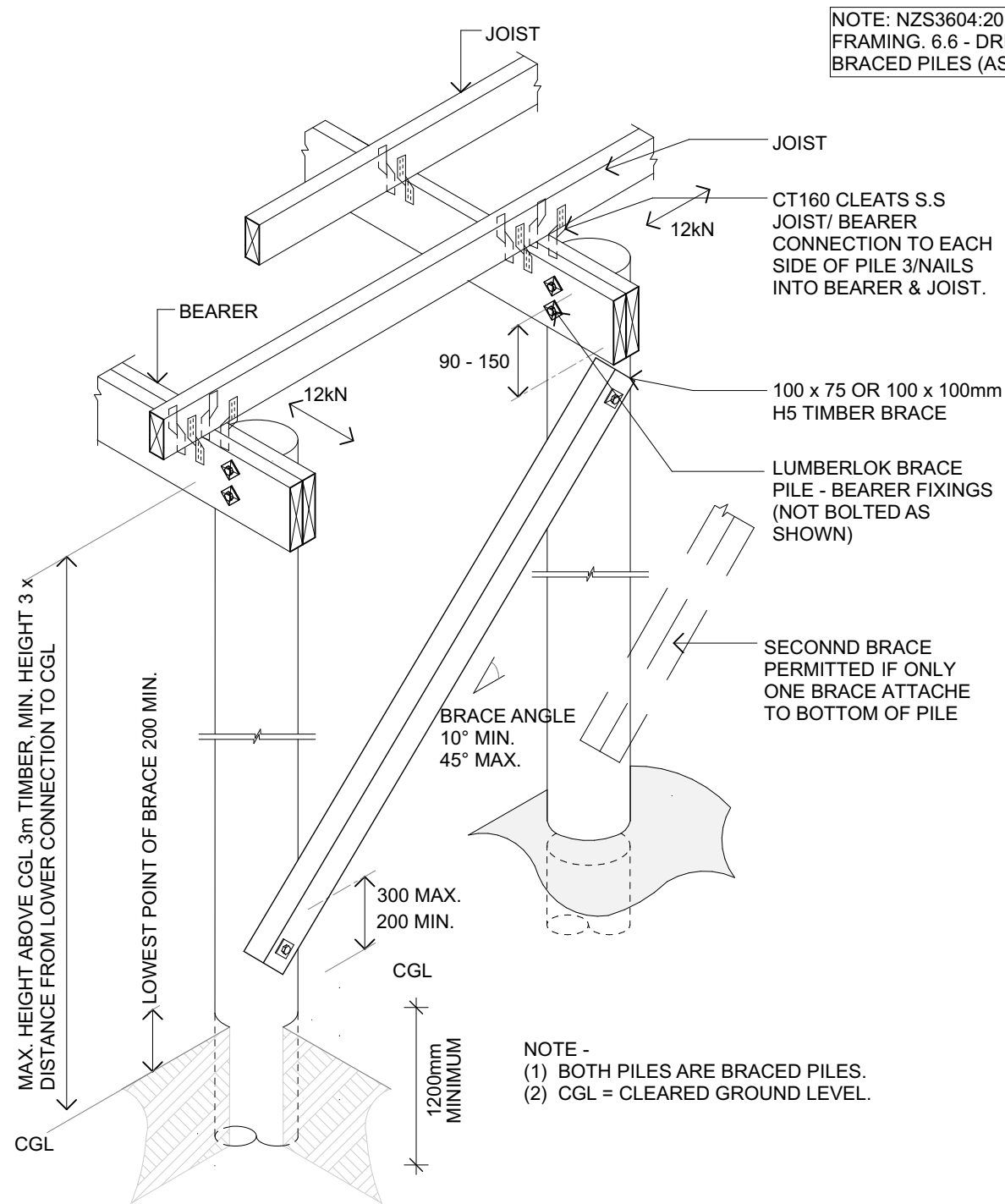
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TITLE

TYPICAL CANTILEVER PILE DETAILS
ISSUE DATE 7/08/2020
JOB NO. 20018
DRAWN BY DF
CHECKED BY CD
PROJECT
PROPOSED DWELLING RELOCATION
WAIMA TOPU B TRUST
2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

REVISIONS
NO. REVISION DATE

SCALE
1:10
DRAWING CODE 402
DRAWING ISSUE BC-01



06 TYP. BRACED PILE DETAILS

203

Scale 1:20

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TITLE

TYPICAL BRACED PILE DETAILS

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

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NO.	REVISION	DATE

SCALE

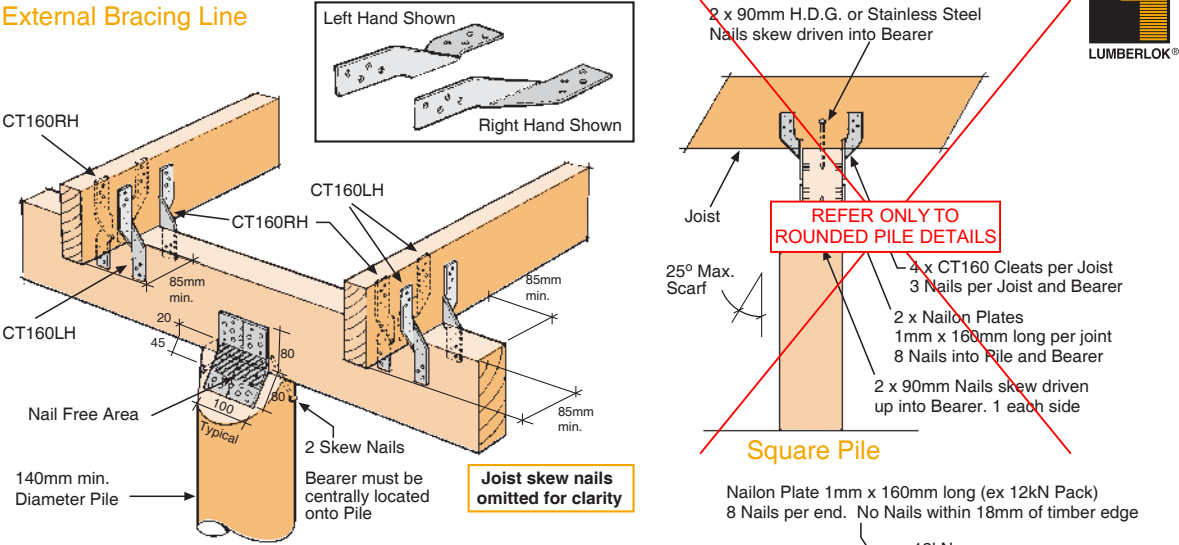
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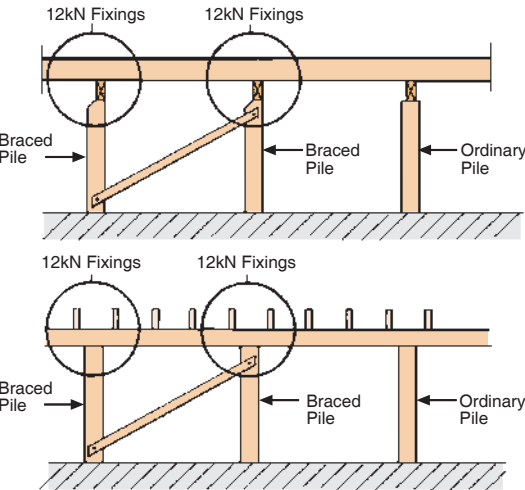
BC-01

External Bracing Line



CORROSION HAZARD USE TABLE

Standard Pack (12KN) - Zones B & C - All Fixings ABOVE 600mm from Ground level	All items Hot Dip Galvanised.
High Corrosion Pack (12KNH) - Zone D - All Fixings BELOW 600mm from Ground level	All items Stainless Steel (304).



Sample Subfloor Elevations
12kN Fixing - Pile to Bearer
- Joists to Bearer

12kN Joint Fixing Schedule

PILE TO BEARER	- Nailon Plate (2 per joint) 1mm x 100mm (Typical) x 160mm long - 8 Nails per Plate into Pile - 8 Nails per Plate into Bearer - 2 Skew Nails 90mm (1 per face)
JOIST TO BEARER	- CT160 Cleats (4 per Joist) 160mm long - 3 Nails per Cleat into Joist - 3 Nails per Cleat into Bearer - 2 Skew Nails 90mm (1 per side)
NAILS	- 80 x 45mm x 3.55 dia. Spiral Nails - 6 x 90mm x 4 dia. St. Steel Nails (12KNH Pack only)

12kN Pile Set Contents

Each set represents 1 x 12kN Pile Fixing (packed 4 sets per carton)
2 x Nailon Plates 160mm long
8 x CT160 Cleats
80 x 45mm x 3.55 dia. Spiral Nails
90mm x 4 dia. St. Steel Angular Groove 6 - 12KNH Pack

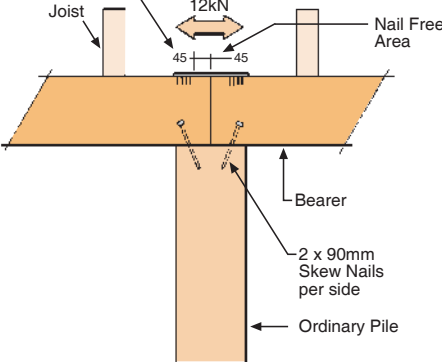
Refer front page for Product Finish Options

90mm H.D.G. Nails not included.

6. FOUNDATIONSUBFLOOR

12kN Bearer Splice

Clause 6.12.7.2
NZS 3604:2011



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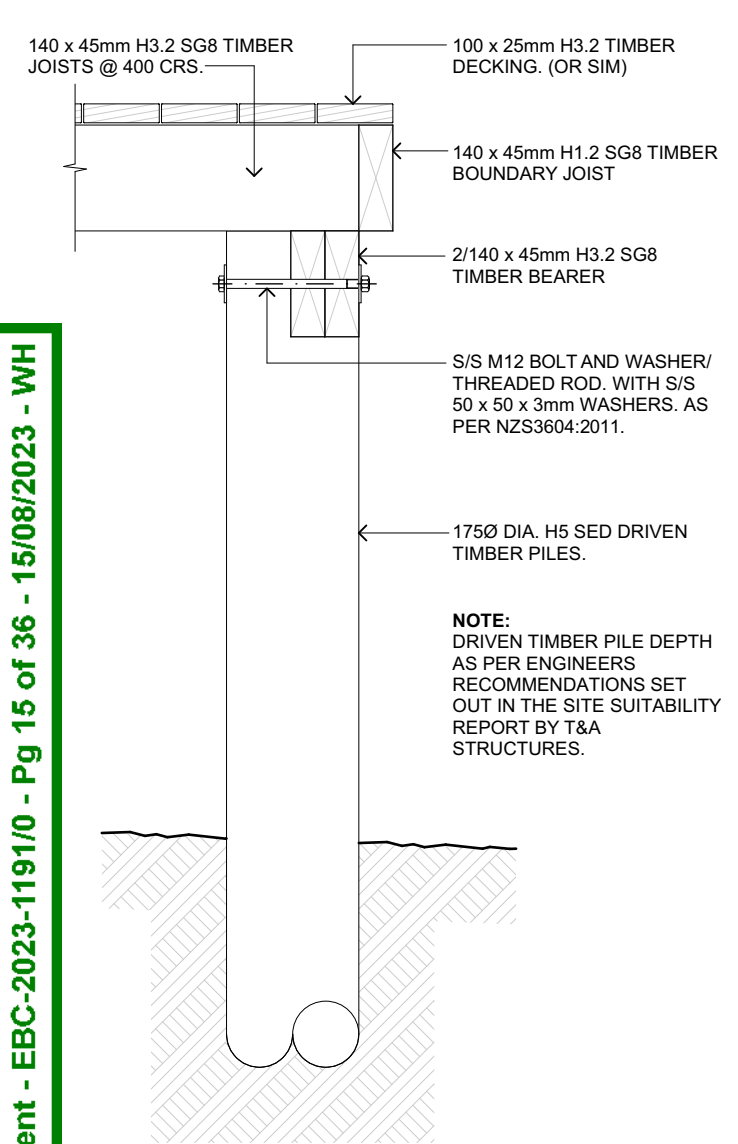
TITLE

TYPICAL LUMBERLOK BRACE PILE FIXINGS
ISSUE DATE 7/08/2020
JOB NO. 20018
DRAWN BY DF
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PROJECT
PROPOSED DWELLING RELOCATION
WAIMA TOPU B TRUST
2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

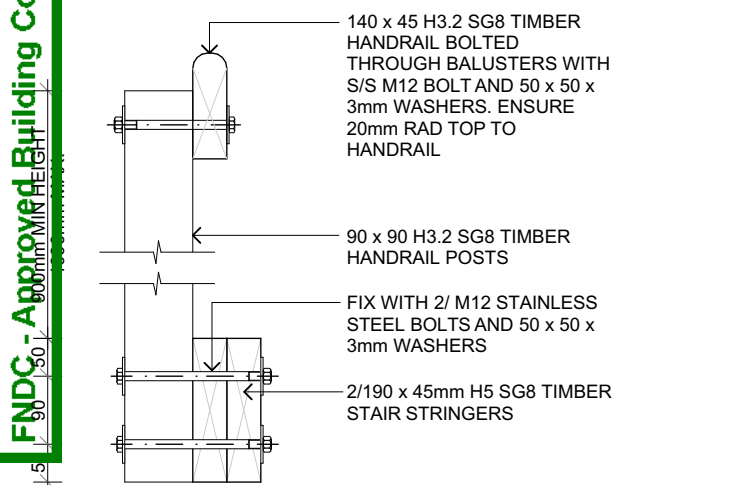
REVISIONS
NO. REVISION DATE

SCALE

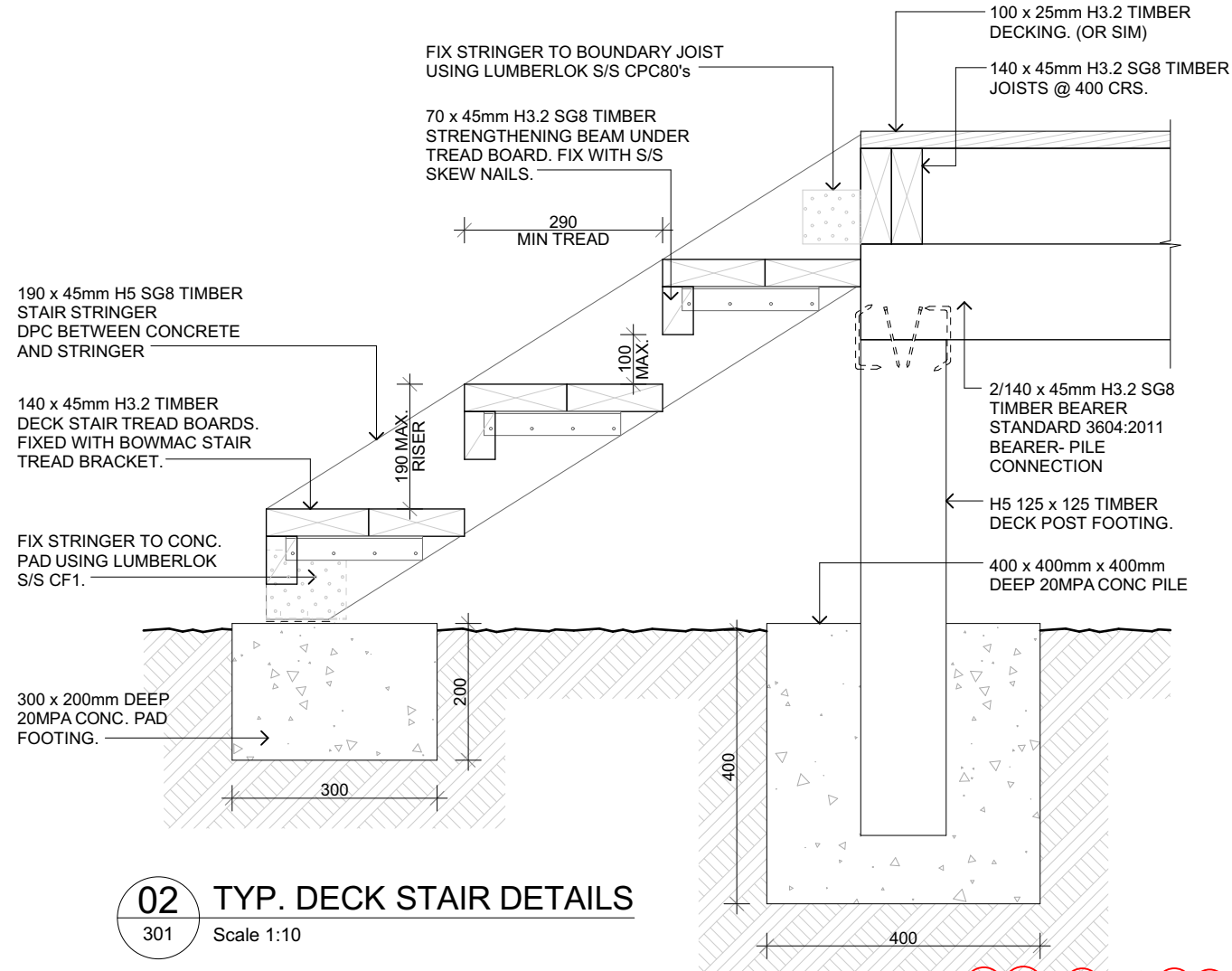
DRAWING CODE 404
DRAWING ISSUE BC-01



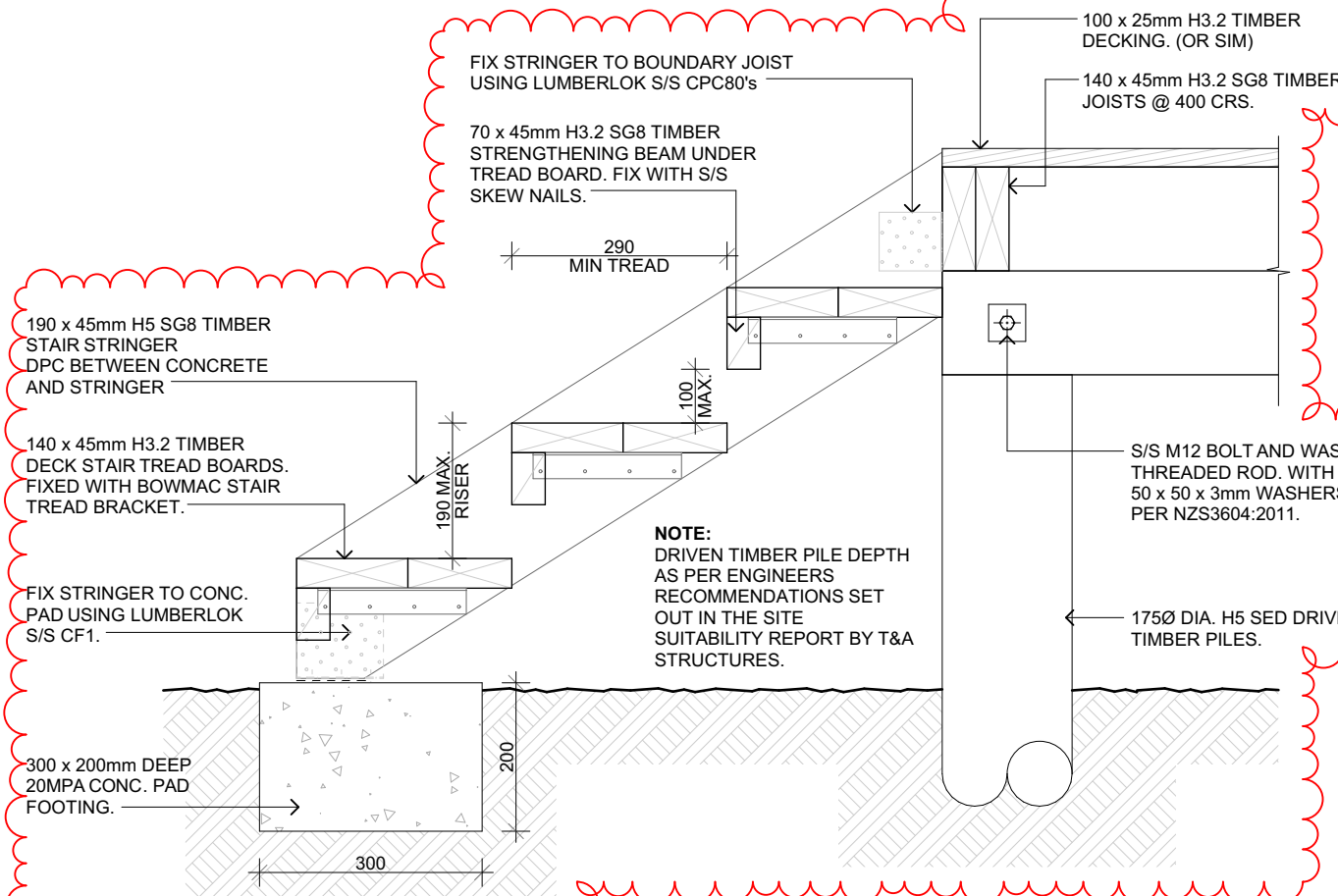
01 TYP. DECK BEARER CONNECTION
Scale 1:10



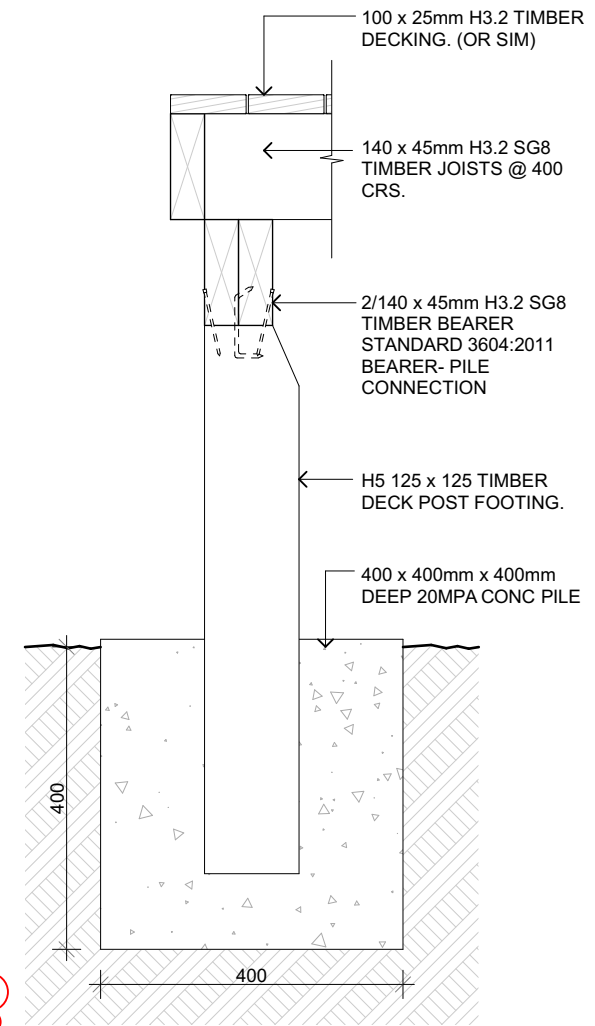
04 TYPICAL BALUSTER CONNECTION
Scale 1:10



02 TYP. DECK STAIR DETAILS
Scale 1:10



02A TYP. FRONT DECK STAIR DETAILS
Scale 1:10



03 TYPICAL LANDING DETAIL
Scale 1:10

NOTES:

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TITLE

TYPICAL DECK DETAILS

ISSUE DATE	21/09/2020
JOB NO.	20018
DRAWN BY	DF
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PROJECT

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RELOCATION

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NO.	REVISION	DATE
1	REV-01 (RFI)	14.09.2020

SCALE
1:10

DRAWING CODE	DRAWING ISSUE
401	BC-01

GENERAL NOTES

WIND ZONE IS VERY HIGH

DRAINAGE

PLUMBING & DRAINAGE SYSTEM IS AS PER AS/NZS3500

TIMBER FRAMING

IN ACCORDANCE WITH NZS 3604 DESIGN SPECIFICATIONS ALL TIMBER TO BE S8 GRADED TIMBER UNLESS OTHERWISE STATED.

ALL STRUCTURAL TIMBER HAS BEEN DESIGNED USING S8 TIMBER UNLESS OTHERWISE SPECIFIED.

ALL WALL FRAMING & TRUSSES TO BE H1.2 TREATED UNLESS OTHERWISE SPECIFIED.

CONSTRUCTION TO COMPLY WITH NZS 3604:2011, LOCAL BODY BY LAWS & THE NZ BUILDING CODE.

FOUNDATIONS

ALL FOUNDATIONS MUST BE INTO GOOD GROUND. AS PER 11/12/2011.
FOUNDATION DESIGN TO BE SED TIMBER DRIVEN PILES AS PER SITE STABILITY REPORT BY T&A STRUCTURES, FOR WAIMA TOPU BLOCK B 2981 STATE HIGHWAY 12, WAIMA. DATED 2.04.2020

NOTE

ALL DIMENSION AND UNDERGROUND SERVICE LOCATIONS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORK.

WORK ONLY TO FIGURED DIMENSIONS. IN THE EVENT OF A DISCREPANCY CONTACT THE DESIGNER. DO NOT SCALE FROM THE DRAWINGS.

DO NOT CHANGE ANY DETAILS WITHOUT PRIOR WRITTEN CONSENT OF THE DESIGNER OR OWNER.

THE BUILDING CONTRACTOR/ HOME OWNER IS TO CHECK ALL LEVELS, DIMENSIONS, CONNECTIONS AND MANUFACTURER SPECIFICATIONS PRIOR TO MANUFACTURING OR BEGINNING ANY WORKS TO MAKE SURE THAT ALL MATERIALS AND LABOUR NECESSARY TO COMPLETE THE PROJECT ARE INCLUDED, WHETHER INFERRED, DRAWN ON THE PLANS OR NOT.

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INSULATION

AS PER NZBC - CLAUSE H1, ENERGY EFFICIENCY - 3RD EDITION & NZS 4213 2004, ENERGY EFFICIENCY - SMALL BUILDING ENVELOPE CLIMATE ZONE 1
TOTAL GLAZING AREA <30%
NO SOLID CONSTRUCTION

FLOOR PLAN NOTES:

CONTRACTOR IS TO CHECK ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK

ALL JOINERY SIZES ARE TRIM SIZES SUBTRACT 7.5mm EACH SIDE FOR BOX (UNIT) SIZE

CONFIRM KITCHEN LAYOUT WITH OWNER & KITCHEN MANUFACTURER BEFORE COMMENCING PIPEOUT

ALL DIMENSIONS TO FINISHED ROOM SIZES.

EXISTING R1.4 POLYESTER UNDERFLOOR INSULATION.

EXISTING CLADDING: JAMES HARDIE FIBRE CEMENT FRONTIER (310mm) WEATHERBOARDS DIRECT FIXED OVER BUILDING PAPER.

EXISTING ROOFING: CORRUGATED LONGRUN ROOFING WITH PRE-FINISHED BARGE AND RIDGE FLASHINGS.

EXISTING SPOUTING & FASCIA: 150 x 25mm H3.1 PAINTED FASCIA WITH MARLEY CLASSIC INTERNAL CLIP FIXED SPOUTING AND 80ø UPVC DOWNPIPES.

EXISTING FLOORING: 20mm PARTICLE BOARD

EXISTING WALL & CEILING LININGS: PLASTERBOARD CEILING AND WALL LININGS. PAINT FINISHED.

EXISTING JOINERY: ALUMINIUM SINGLE GLAZED EXTERIOR JOINERY.

EXISTING TIMBER SUBFLOOR: 140 x 45mm JOISTS @ 600 CRS. OVER 3/140 x 45mm TIMBER BEARERS.

EXISTING MATERIALS NOTES:

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DRAWING LIST

PAGE	DRAWING TITLE
	COVER PAGE
101	PRELIMINARY & GENERAL
102	SITE & SITE DRAINAGE PLAN
201	FLOOR PLAN
202	ELEVATIONS
203	FOUNDATION & DRAINAGE PLAN
204	EXISTING FLOOR/ DECK FRAMING PLANS
205	SUBFLOOR BRACING CALCULATIONS
301	SECTION A-A
302	EXISTING PHOTOS
401	TYPICAL DECK DETAILS
402	TYPICAL CANTILEVER PILE DETAILS
403	TYPICAL BRACED PILE DETAILS
404	TYPICAL LUMBERLOK BRACE PILE FIXINGS

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TITLE

PRELIMINARY & GENERAL

ISSUE DATE13/07/2020

JOB NO.20018

DRAWN BYDF

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

REVISIONS

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SCALE

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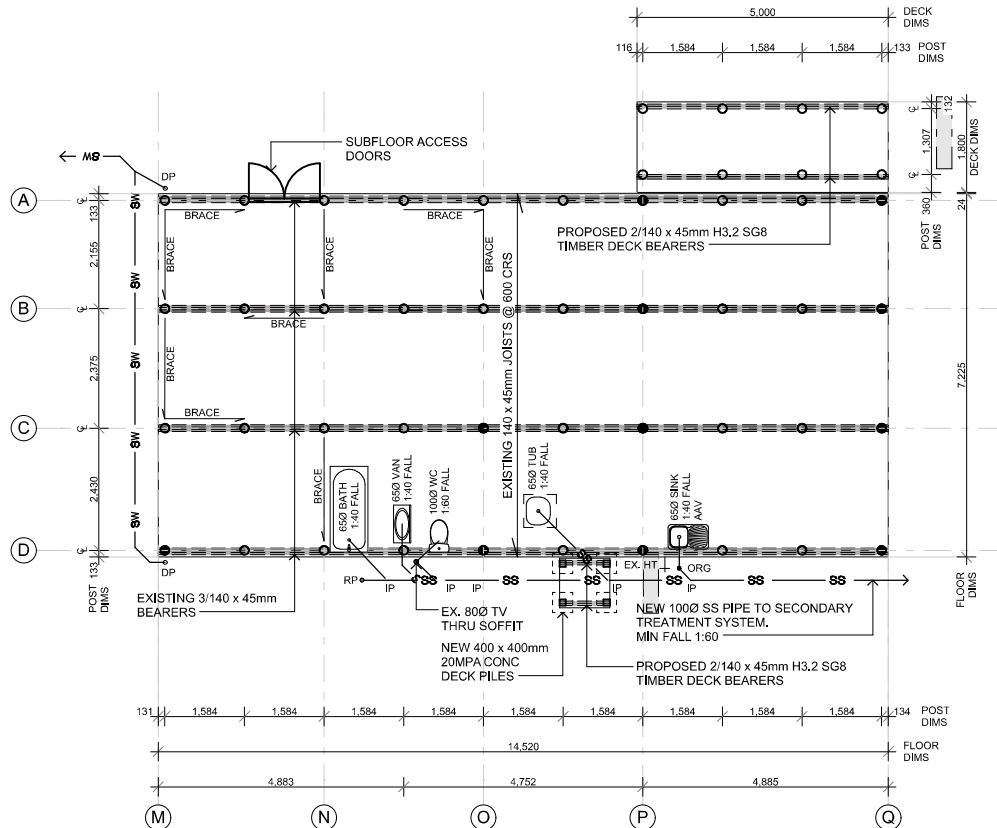
DRAINAGE KEY:

- 800 TV EXTERIOR
- 1000 u.P.V.C SEWER
- 1000 u.P.V.C STORMWATER
- ORG (OVERFLOW RELIEF GULLY)
- HOSE TAP
- 800mm DOWNPIPE
- RODDING POINT

I STATE ON REASONABLE GROUNDS THAT
THESE DRAWINGS ARE IN ACCORDANCE WITH
OUR CALCULATIONS WHERE APPLICABLE

TEO PILAPIL CPEng:

13 July 2020



FOOTINGS NOTES

1. ALL PILES TO BE CONNECTED TO BEARERS AS PER NZS3604:2011 (STAINLESS STEEL FIXINGS WHERE EXPOSED).
2. ALL CANTILEVER PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 6kN PILE FIXINGS FOR CANTILEVER PILES.
3. ALL BRACED PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 12kN PILE FIXINGS FOR BRACED PILES.
4. WHERE 6kN/12kN OUTSIDE FACE JOIST-BEARER FIXINGS ARE NOT ACCESSIBLE USE S/S LUMBERLOK 12kN RETRO SUBFLOOR FIXINGS.
5. ALL 1750 H5 SED PILES ARE TO BE DRIVEN PILES IN ACCORDANCE WITH RECOMMENDATIONS SET OUT BY THE SITE SUITABILITY REPORT BY T&A STRUCTURES, DATED 02.04.2020.
6. ALL PILES ARE TO BE H5 TREATED.
7. CONTRACTOR IS TO CHECK ALL PRE-EXISTING MEASUREMENTS WITH DIMENSIONS SHOWN ON PLAN BEFORE COMMENCING ANY WORK OR ORDERING ANY MATERIALS.
8. CONTRACTOR IS TO LOCATE ALL PHONE, POWER & DATA CABLES PRIOR TO COMMENCING WORKS.
9. CONTRACTOR IS TO LOCATE ALL STORMWATER, SEWER, GAS & WATER PIPES PRIOR TO COMMENCING ANY WORKS.
10. ALL DRIVEN TIMBER PILES TO BE IN ACCORDANCE WITH NZS3604:2001.
11. ALL DRIVEN PILES TO BE IN ACCORDANCE WITH 3640:2003.
12. PILE SETS AS RECOMMENDED BY ENGINEER
- FOR 200KG HAMMER FALLING 2.4m (15mm FINAL SET)
- FOR 500KG HAMMER FALLING 1.0m (20mm FINAL SET).

GEOTECHNICAL NOTES:

PLEASE READ IN CONJUNCTION WITH SITE
SUITABILITY REPORT BY T&A STRUCTURES
DATED 02.04.2020.

KEY:

- TYPICAL TIMBER DRIVEN PILE
1750 H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TYPICAL TIMBER DRIVEN CANTILEVER PILE
1750 H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TYPICAL TIMBER DRIVEN BRACED PILE
1750 H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)

PLUMBING & DRAINAGE NOTES:

1. ALL PLUMBING & DRAINAGE TO COMPLY WITH AS/NZS3500
2. ALL STORMWATER & SEWER PIPES ARE TO BE 1000 UPVC AT 1:60 MINIMUM GRADIENT.
3. DRAINLAYER IS TO PROVIDE THE COUNCIL WITH AN AS-BUILT DRAINAGE PLAN ON COMPLETION.
4. INSPECTION POINTS ARE TO BE PROVIDED AT THE FOLLOWING LOCATIONS:
 - AT EVERY DRAIN JUNCTION TO ANOTHER DRAIN (EXCEPT WHERE BRANCH DRAIN IS LESS THAN 2.0MTRS & SERVES A G.T ONLY).
 - EVERY CHANGE IN HORIZONTAL DIRECTION GREATER THAN 45°.
 - WITHIN 2.0MTRS OF BUILDING WHERE A DRAIN ENTERS OR EXITS FROM UNDER A BUILDING.
 - AT A DRAIN CONNECTION TO LATERAL.
5. VENT PIPES MUST TERMINATE 150mm ABOVE ROOF LEVEL & BE FITTED WITH BIRD EXCLUDER.
6. CONTRACTOR IS TO CHECK THE LOCATION OF ALL EXISTING CONNECTIONS & FALLS BEFORE COMMENCING ANY BUILDING WORK

- 1000 WC WASTE WITH 1:60 GRADIENT
- 650 SHOWER WASTE WITH 1:40 GRADIENT
- 650 VANITY/WHB WASTE WITH 1:40 GRADIENT
- 650 SINK WASTE WITH 1:40 GRADIENT
- 650 TUB WASTE WITH 1:40 GRADIENT

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FOUNDATION PLAN

Scale: 1:100

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TITLE

FOUNDATION & DRAINAGE PLAN

ISSUE DATE 13/07/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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REVISIONS

NO.	REVISION	DATE

SCALE

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203 BC-01

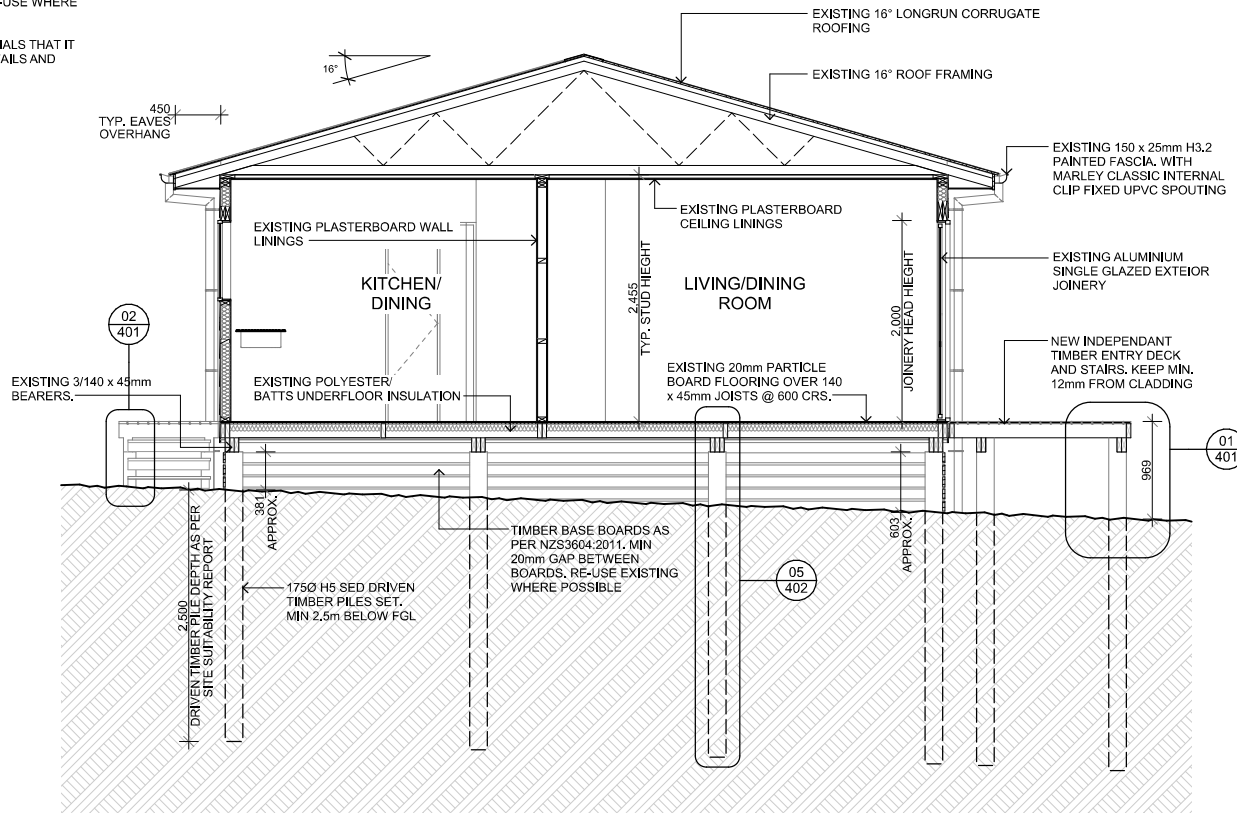
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SECTION A-A

Scale 1:50

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SECTION A-A

ISSUE DATE 13/07/2020

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PROPOSED DWELLING
RELOCATION

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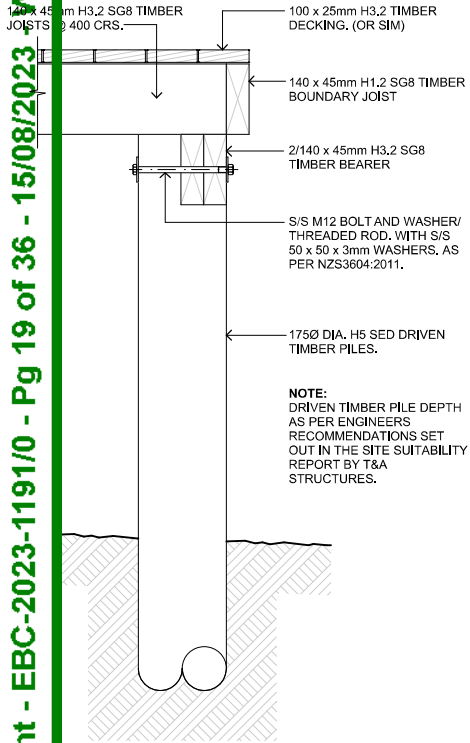
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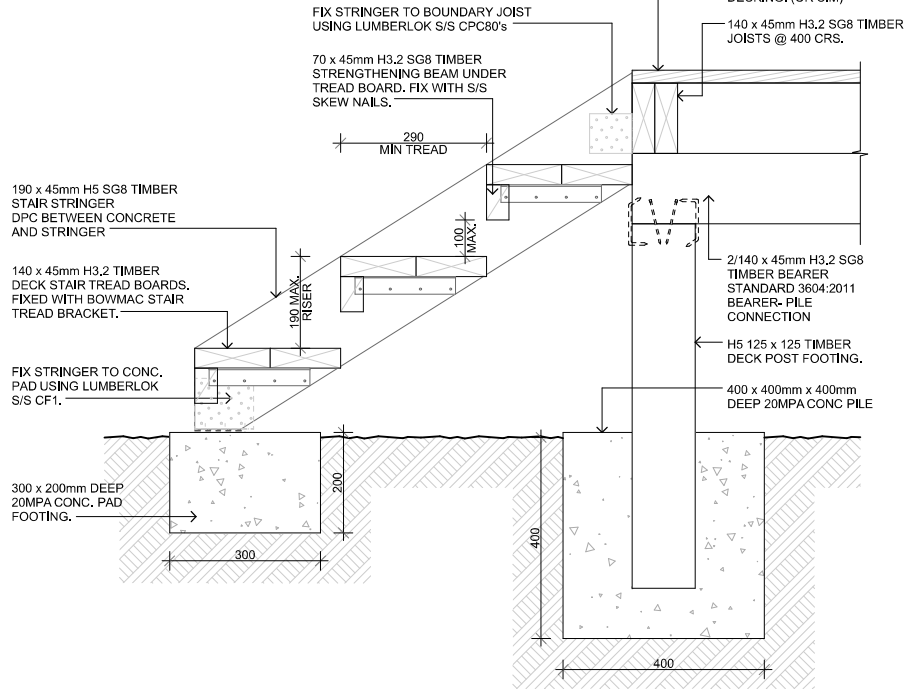
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BC-01



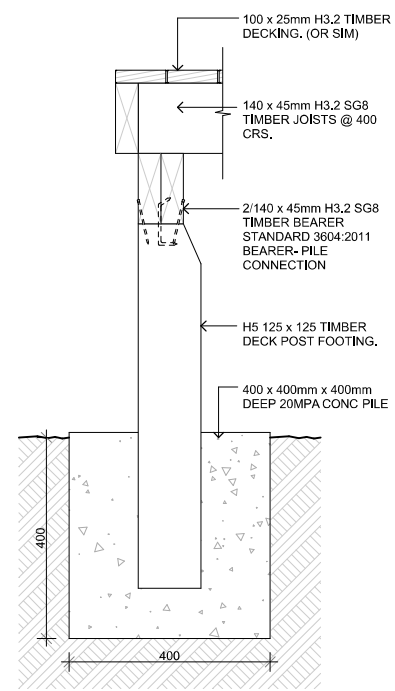
TYP. DECK BEARER CONNECTION

Scale 1:10



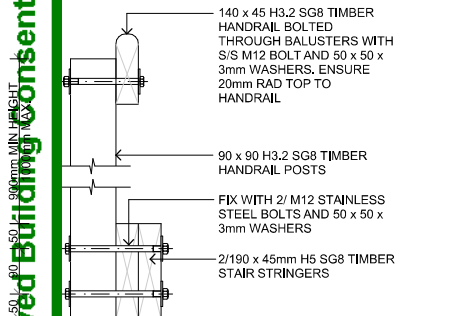
02 TYP. DECK STAIR DETAILS

301 Scale 1:10



03 TYPICAL LANDING DETAIL

Scale 1:10



TYPICAL BALUSTER CONNECTION

Scale 1:10

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TEO PILAPIL CPEng:

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TITLE

TYPICAL DECK DETAILS

ISSUE DATE 13/07/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

REVISIONS

NO.	REVISION	DATE

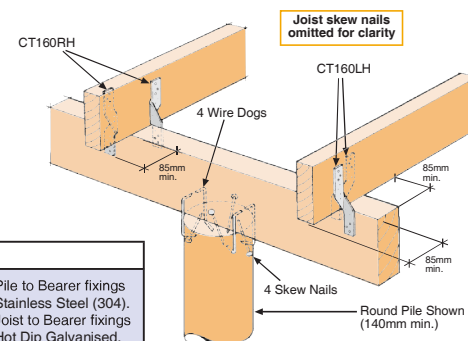
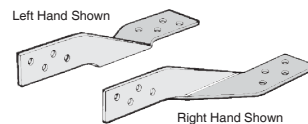
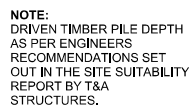
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401	BC-01

01 Scale 1:10

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13 July 2020

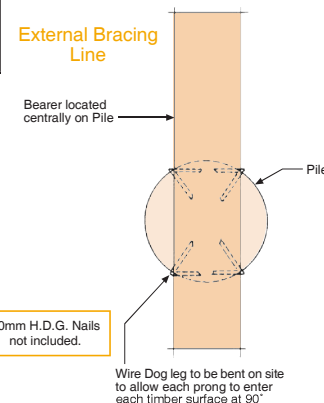


6kN Joint Fixing Schedule

PILE TO BEARER	- Wire Dog Staples (4 per joint) Stainless Steel - 4 x 90mm Skew Nails (1 per face) Stainless Steel
JOIST TO BEARER	- CT160 Cleats (4 per pile) 160mm long - 3 Nails per Cleat into Joist - 3 Nails per Cleat into Bearer - 2 Skew Nails 90mm (1 per side)
NAILS	- 24 x 45mm x 3.55 dia. Spiral Nails (for Joist to Bearer fixings) - 4 x 90mm x 4 dia. St. Steel Nails (6KN Pack only) - 8 x 90mm x 4 dia. St. Steel Nails (6KNH Pack only)

4 x Wire Dog Staples Stainless Steel
4 x CT160 Cleats
24 x 45mm x 3.55 dia. Spiral Nails
90mm St. Steel Nails to suit 4 - 6KN pack
8 - 6KNH pack

Refer front page
for Product
Finish Options



External Bracing Line

Bearer located centrally on Bil

Wire Dog leg to be bent on site to allow each prong to enter each timber surface at 90°



LUMBERLOK

6. FOUNDATION/SUBFLOOR

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TITLE

TYPICAL CANTILEVER PILE DETAILS

ISSUE DATE	13/07/2020
JOB NO.	20018
DRAWN BY	DF
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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

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402	BC-01

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TYPICAL BRACED PILE DETAILS

PROJECT

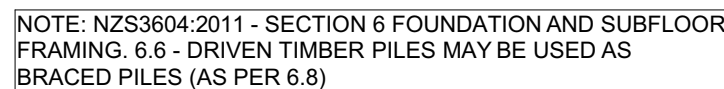
WAIMA TOPU B TRUST

**2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473**

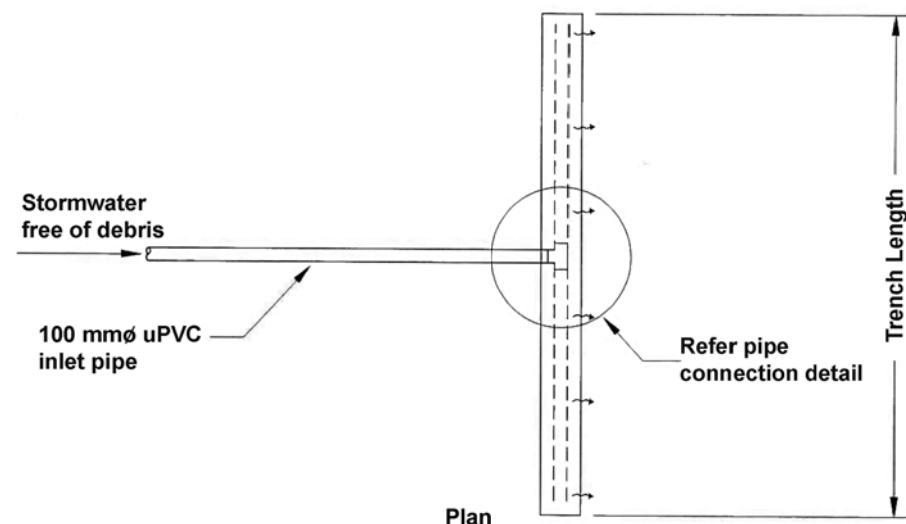
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403	BC-01



06 TYP. BRACED PILE DETAILS
203 Scale 1:20



Keep dispersal trench 30 m clear of property boundary

Design Parameters

Effective catchment area drained (m ²)	Trench Length (m)
100	8
200	12
300	14
400	16
500	18
600	20

(Note: effective catchment area drained = impervious area + 0.72 x pervious area)

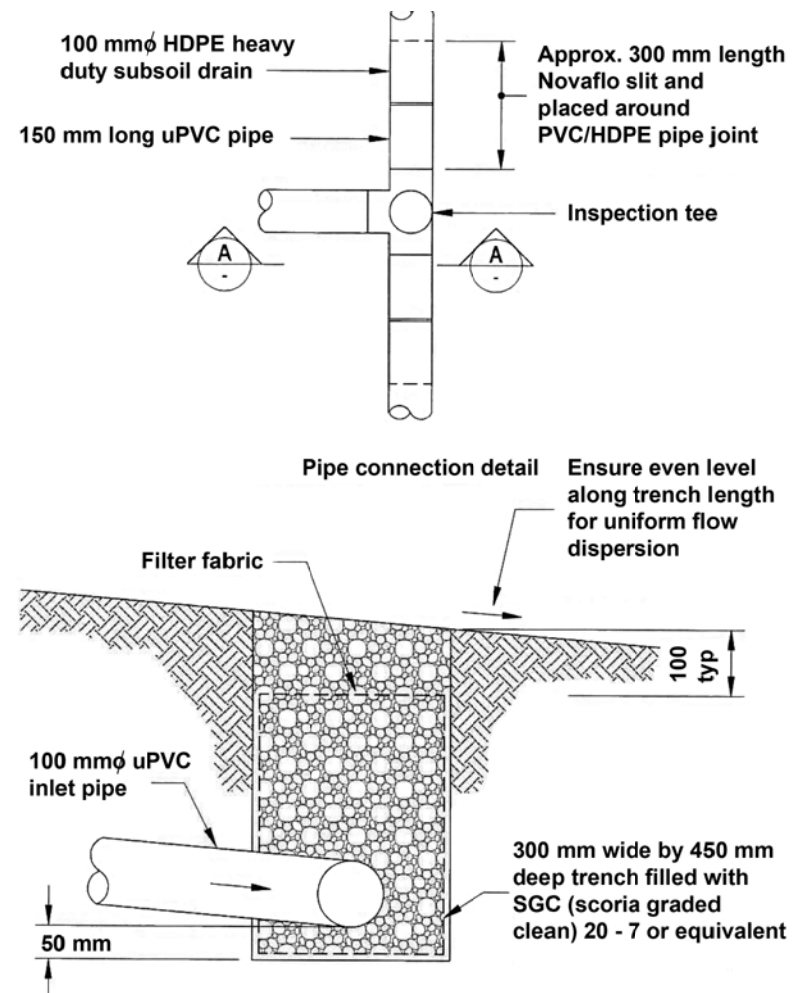


Figure C21
Conceptual Layout of Flow Dispersal Trench

07 TYP. SOAKAGE TRENCH DETAILS
Scale 1:1

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TITLE

TYPICAL SW
TRENCH DETAILS

ISSUE DATE 21/09/2020

JOB NO. 20018

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RELOCATION

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SCALE

1:1

DRAWING CODE DRAWING ISSUE

405

BC-01

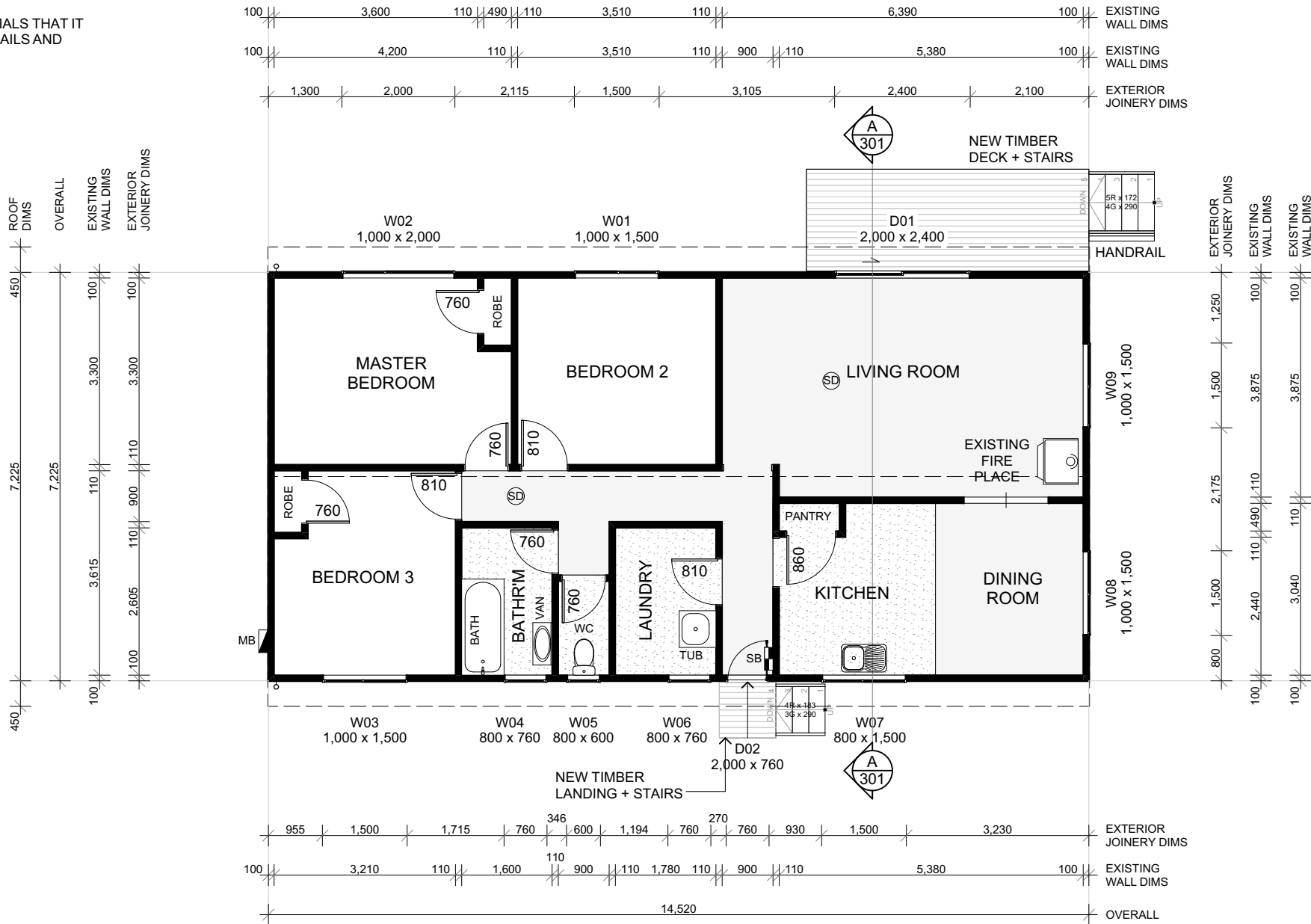
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KEY

- SD SMOKE DETECTOR
- DISTRIBUTION BOARD
- FLOORING
- CARPET
- VINYL

FLOOR AREAS

(DWELLING):	104.90m ²
TIMBER DECK:	22.24m ²
TOTAL:	90.87m²

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TITLE

FLOOR PLAN

ISSUE DATE	7/08/2020
JOB NO.	20018
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PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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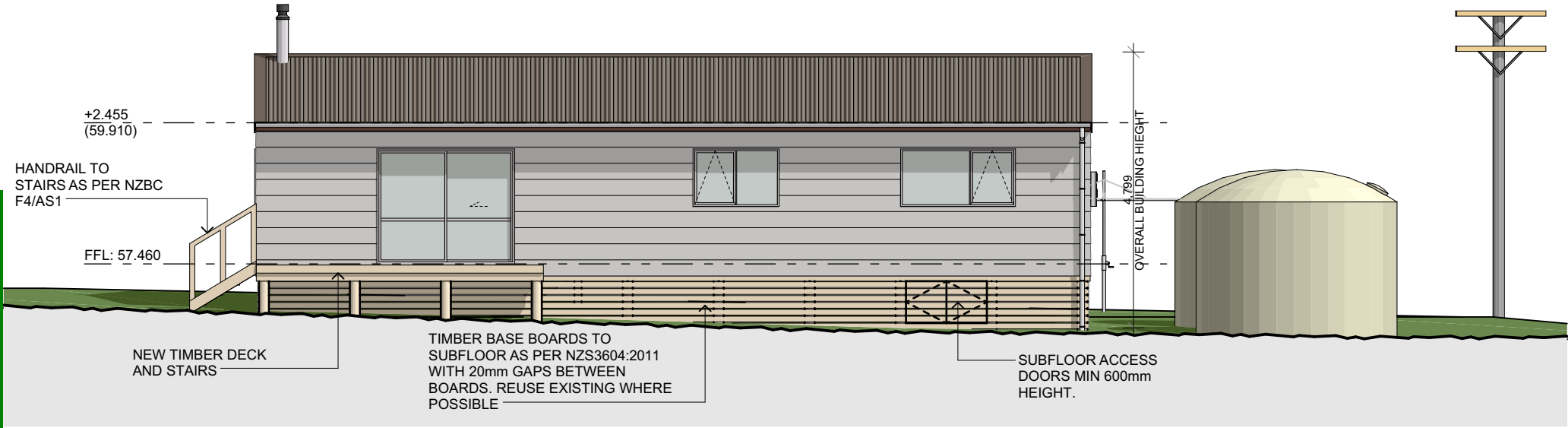
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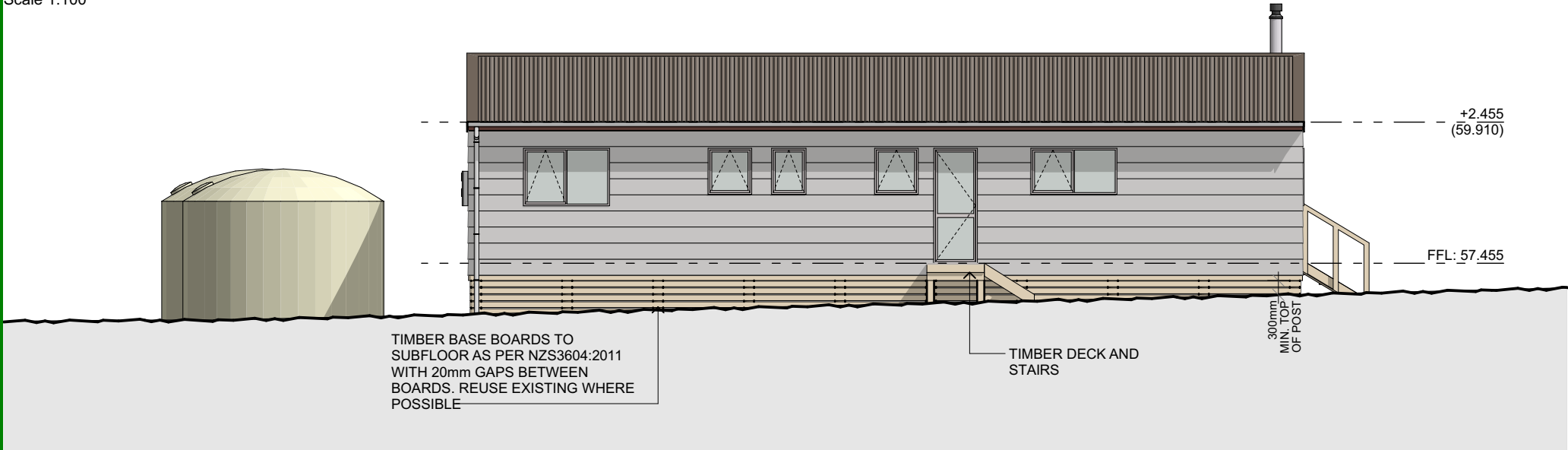
EXISTING FLOOR PLAN

Scale 1:100



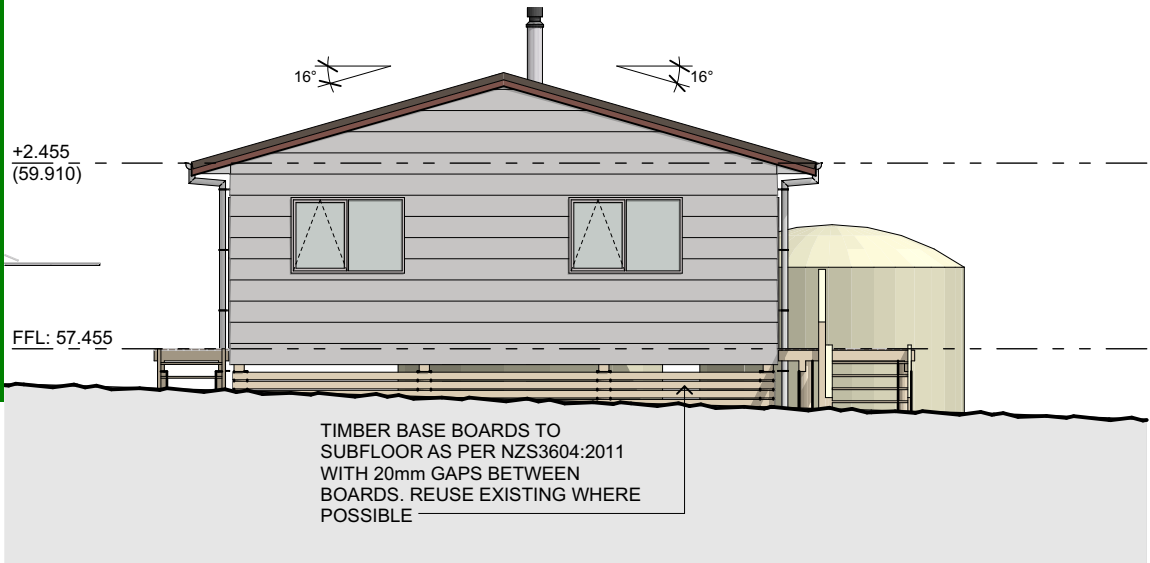
NORTHERN ELEVATION

Scale 1:100



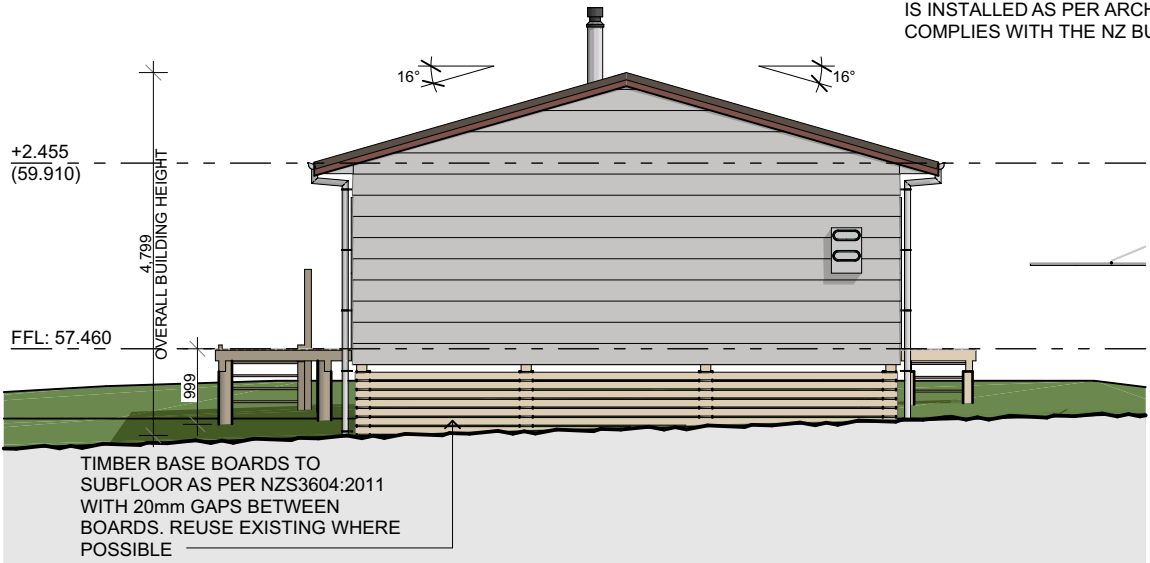
SOUTHERN ELEVATION

Scale 1:100



EASTERN ELEVATION

Scale 1:100



WESTERN ELEVATION

Scale 1:100

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		8

ELEVATION NOTES

- EXISTING ROOFING**
16° CORRUGATED LONGRUN ROOFING WITH PRE-FINISHED RIDGE/BARGE FLASHINGS.
- FASCIA SPOUTING & DOWNPipes**
150 x 25mm H3.1 PAINTED TIMBER FASCIA WITH UPVC MARLEY CLASSIC GUTTER WITH INTERNAL CLIP FIXINGS WITH 80Ømm UPVC DOWNPipes.
- SOFFIT LINING**
EXISTING FIBRE CEMENT SOFFIT LINING WITH PVC JOINTERS.
- EXISTING WEATHERBOARDS (DIRECT FIX)**
JAMES HARDIE WEATHERBOARDS (FRONTIER 310mm OR SIMILAR) DIRECT FIXED OVER BUILDING WRAP.
- JOINERY**
ALUMINIUM JOINERY SINGLE GLAZED ALUMINIUM HEAD FLASHINGS.

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TITLE

ELEVATIONS

ISSUE DATE 7/08/2020

JOB NO. 20018

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

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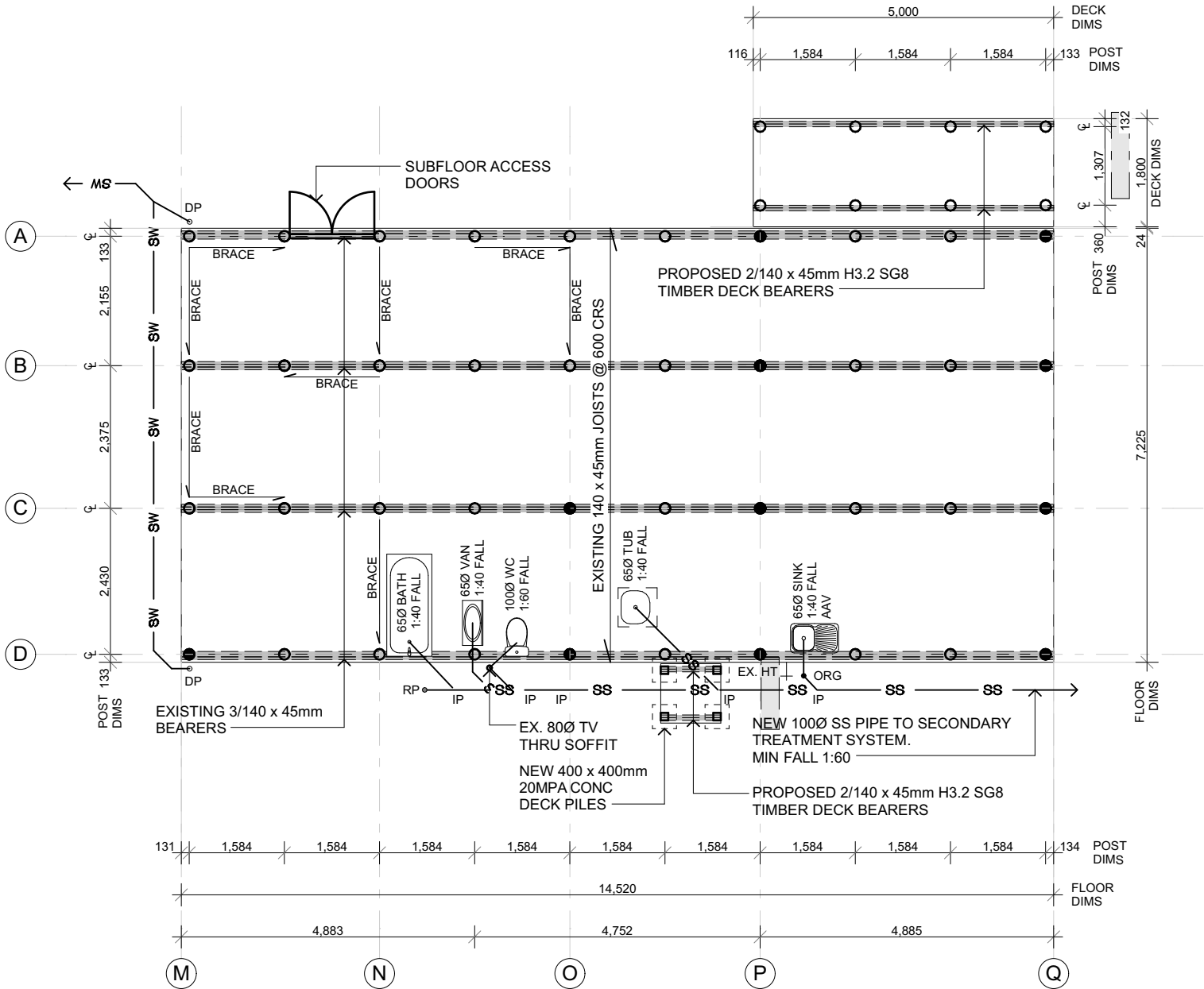
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202	BC-01

- DRAINAGE KEY:**
- TV • 80Ø TV EXTERIOR
 - SS 100Ø u.P.V.C SEWER
 - SW - 100Ø u.P.V.C STORMWATER
 - ORG • ORG (OVERFLOW RELIEF GULLY)
 - HT † HOSE TAP
 - DP ° 80Ømm DOWNPIPE
 - RP • RODDING POINT



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FOUNDATION PLAN

Scale 1:100

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FOOTINGS NOTES

1. ALL PILES TO BE CONNECTED TO BEARERS AS PER NZS3604:2011 (STAINLESS STEEL FIXINGS WHERE EXPOSED).
2. ALL CANTILEVER PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 6kN PILE FIXINGS FOR CANTILEVER PILES.
3. ALL BRACED PILES TO BE CONNECTED TO BEARERS USING LUMBERLOK S/S 12kN PILE FIXINGS FOR BRACED PILES.
4. WHERE 6kN/12kN OUTSIDE FACE JOIST-BEARER FIXINGS ARE NOT ACCESSIBLE USE S/S LUMBERLOK 12kN RETRO SUBFLOOR FIXINGS.
5. ALL 175Ø H5 SED PILES ARE TO BE DRIVEN PILES IN ACCORDANCE WITH RECOMMENDATIONS SET OUT BY THE SITE SUITABILITY REPORT BY T&A STRUCTURES. DATED 02.04.2020.
6. ALL PILES ARE TO BE H5 TREATED
7. CONTRACTOR IS TO CHECK ALL PRE-EXISTING MEASUREMENTS WITH DIMENSIONS SHOWN ON PLAN BEFORE COMMENCING ANY WORK OR ORDERING ANY MATERIALS.
8. CONTRACTOR IS TO LOCATE ALL PHONE, POWER & DATA CABLES PRIOR TO COMMENCING WORKS.
9. CONTRACTOR IS TO LOCATE ALL STORMWATER, SEWER, GAS & WATER PIPES PRIOR TO COMMENCING ANY WORKS.
10. ALL DRIVEN TIMBER PILES TO BE IN ACCORDANCE WITH NZS3604:2001.
11. ALL DRIVEN PILES TO BE IN ACCORDANCE WITH 3640:2003.
12. PILE SETS AS RECOMMENDED BY ENGINEER
 - FOR 200KG HAMMER FALLING 2.4m (15mm FINAL SET)
 - FOR 500KG HAMMER FALLING 1.0m (20mm FINAL SET).

GEOTECHNICAL NOTES:

PLEASE READ IN CONJUNCTION WITH SITE SUITABILITY REPORT BY T&A STRUCTURES DATED 02.04.2020.

KEY:

- TYPICAL TIMBER DRIVEN PILE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TYPICAL TIMBER DRIVEN CANTILEVER PILE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)
- TYPICAL TIMBER DRIVEN BRACED PILE
175Ø H5 POLE (MAX SET PER BLOW DOES NOT EXCEED 25mm)

PLUMBING & DRAINAGE NOTES:

1. ALL PLUMBING & DRAINAGE TO COMPLY WITH AS/NZS3500
2. ALL STORMWATER & SEWER PIPES ARE TO BE 100Ø UPVC AT 1:60 MINIMUM GRADIENT.
3. DRAINLAYER IS TO PROVIDE THE COUNCIL WITH AN AS-BUILT DRAINAGE PLAN ON COMPLETION.
4. INSPECTION POINTS ARE TO BE PROVIDED AT THE FOLLOWING LOCATIONS:
 - AT EVERY DRAIN JUNCTION TO ANOTHER DRAIN (EXCEPT WHERE BRANCH DRAIN IS LESS THAN 2.0MTRS & SERVES A G.T ONLY).
 - EVERY CHANGE IN HORIZONTAL DIRECTION GREATER THAN 45°.
 - WITHIN 2.0MTRS OF BUILDING WHERE A DRAIN ENTERS OR EXITS FROM UNDER A BUILDING.
 - AT A DRAIN CONNECTION TO LATERAL.
5. VENT PIPES MUST TERMINATE 150mm ABOVE ROOF LEVEL & BE FITTED WITH BIRD EXCLUDER.
6. CONTRACTOR IS TO CHECK THE LOCATION OF ALL EXISTING CONNECTIONS & FALLS BEFORE COMMENCING ANY BUILDING WORK

- 100Ø WC WASTE WITH 1:60 GRADIENT
- 65Ø SHOWER WASTE WITH 1:40 GRADIENT
- 65Ø VANITY/WHB WASTE WITH 1:40 GRADIENT
- 65Ø SINK WASTE WITH 1:40 GRADIENT
- 65Ø TUB WASTE WITH 1:40 GRADIENT

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TITLE

FOUNDATION & DRAINAGE PLAN

ISSUE DATE	7/08/2020
JOB NO.	20018
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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

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203	BC-01

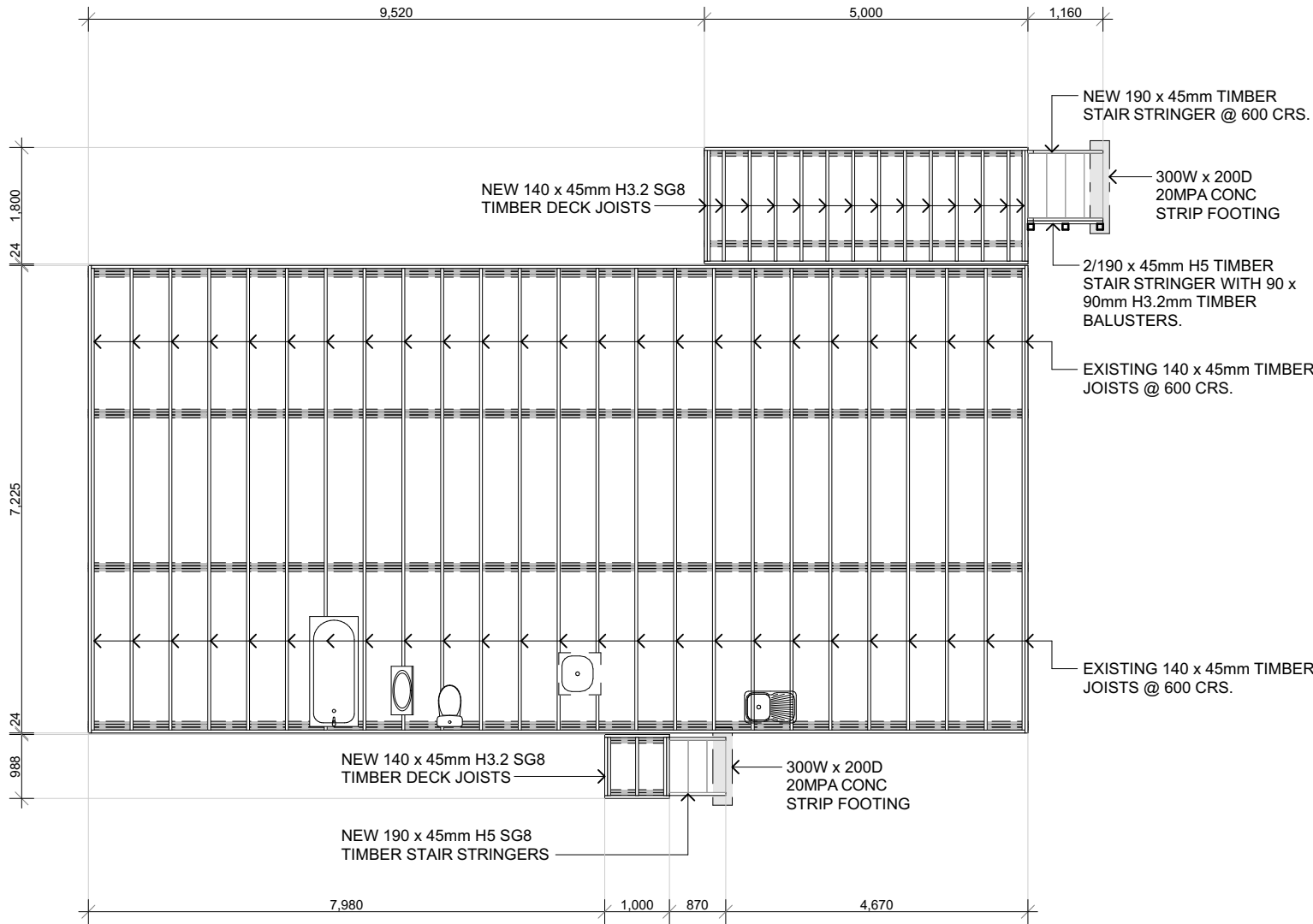
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SUBFLOOR FRAMING NOTES:

1. ALL EXPOSED & STRUCTURAL FIXINGS ARE TO BE STAINLESS STEEL
2. ALL STRUCTURAL TIMBER HAS BEEN DESIGNED USING SG8 (1.8/2.0kPa)
3. 140 x 45mm H3.2 SG8 SOLID BLOCKING - MID SPAN BLOCKING @1.8m APPART
4. 0.4 NON SLIP TO PROVIDE SLIP RESISTANCE TO COMPLY WITH AS/NZS 3661.
5. CONTRACTOR IS TO SEAL ALL CUT TIMBER ENDS WITH METALEX TIMBER PRESERVATIVE OR SIMILAR.
6. ALL DECKING TO BE MIN. 100 x 25mm H3.2

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FLOOR/ DECK FRAMING PLANS

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TITLE

EXISTING FLOOR/
DECK FRAMING
PLANS

ISSUE DATE	7/08/2020
JOB NO.	20018
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PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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Demand Calculation Sheet

Job Details

Name: Waima Topu B Trust
Street and Number: 2981 State Highway 12
Lot and DP Number: Waima Topu B Block CT No. NA52B/52
City/Town/District: Waima
Designer: D. FORD
Company: Dawson Design
Date: Thursday, 18 June 2020

Building Specification

Number of Storeys 1
Floor Loading 2 kPa
Foundation Type Subfloor
Subfloor Cladding Weight Light

Single

Cladding Weight Light
Roof Weight Light
Room in Roof Space No
Roof Pitch (degrees) 16
Roof Height above Eaves (m) 1.41
Building Height to Apex (m) 5.09
Ground to Lower Floor (m) 0.7

Average Stud Height (m) 2.4
Building Length (m) 14.52
Building Width (m) 7.225
Building Plan Area (m²) 104.90

Building Location

Wind Zone = Very High

Earthquake Zone 1

Soil Type D & E (Deep to Very Soft)
Annual Prob. of Exceedance:1 in 500 (Default)

Bracing Units required for Wind

	Along	Across
Single Level	442	763
Subfloor Level	812	1507

Bracing Units required for Earthquake

	Along & Across
Single Level	567
Subfloor Level	729

GIB EzyBrace® Version 12/18

GIB EzyBrace® Bracing Software



Subfloor Level Along Resistance Sheet

Job Name: Waima Topu B Trust

									Wind	EQ
									Demand	
									812	729
									Achieved	
Line	Element	Length or No.	Angle (degrees)		Type	Supplier	Wind (BUs)	EQ (BUs)	1410 174%	810 111%
A	1	2.00			Cantilever Pile	NZS3604	140	60		
	2	2.00			Braced Piles	NZS3604	320	240		
									460 OK	300 OK
B	1	2.00			Cantilever Pile	NZS3604	140	60		
	2	1.00			Braced Piles	NZS3604	160	120		
									300 OK	180 OK
C	1	1.00			Braced Piles	NZS3604	160	120		
	2	3.00			Cantilever Pile	NZS3604	210	90		
									370 OK	210 OK
D	1	4.00			Cantilever Pile	NZS3604	280	120		
									280 OK	120 OK

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Subfloor Level Across Resistance Sheet

Job Name: Waima Topu B Trust

									Wind	EQ
									Demand	
									1507	729
									Achieved	
Line	Element	Length or No.	Angle (degrees)		Type	Supplier	Wind (BUs)	EQ (BUs)	1570 104%	930 128%
M	1	2.00			Braced Piles	NZS3604	320	240		
	2	1.00			Cantilever Pile	NZS3604	70	30		
									390 OK	270 OK
N	1	2.00			Braced Piles	NZS3604	320	240		
									320 OK	240 OK
O	1	1.00			Braced Piles	NZS3604	160	120		
	2	2.00			Cantilever Pile	NZS3604	140	60		
									300 OK	180 OK
P	1	4.00			Cantilever Pile	NZS3604	280	120		
									280 OK	120 OK
Q	1	4.00			Cantilever Pile	NZS3604	280	120		
									280 OK	120 OK

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TITLE

SUBFLOOR BRACING CALCULATIONS

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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1:1.1798

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205	BC-01

NOTES:

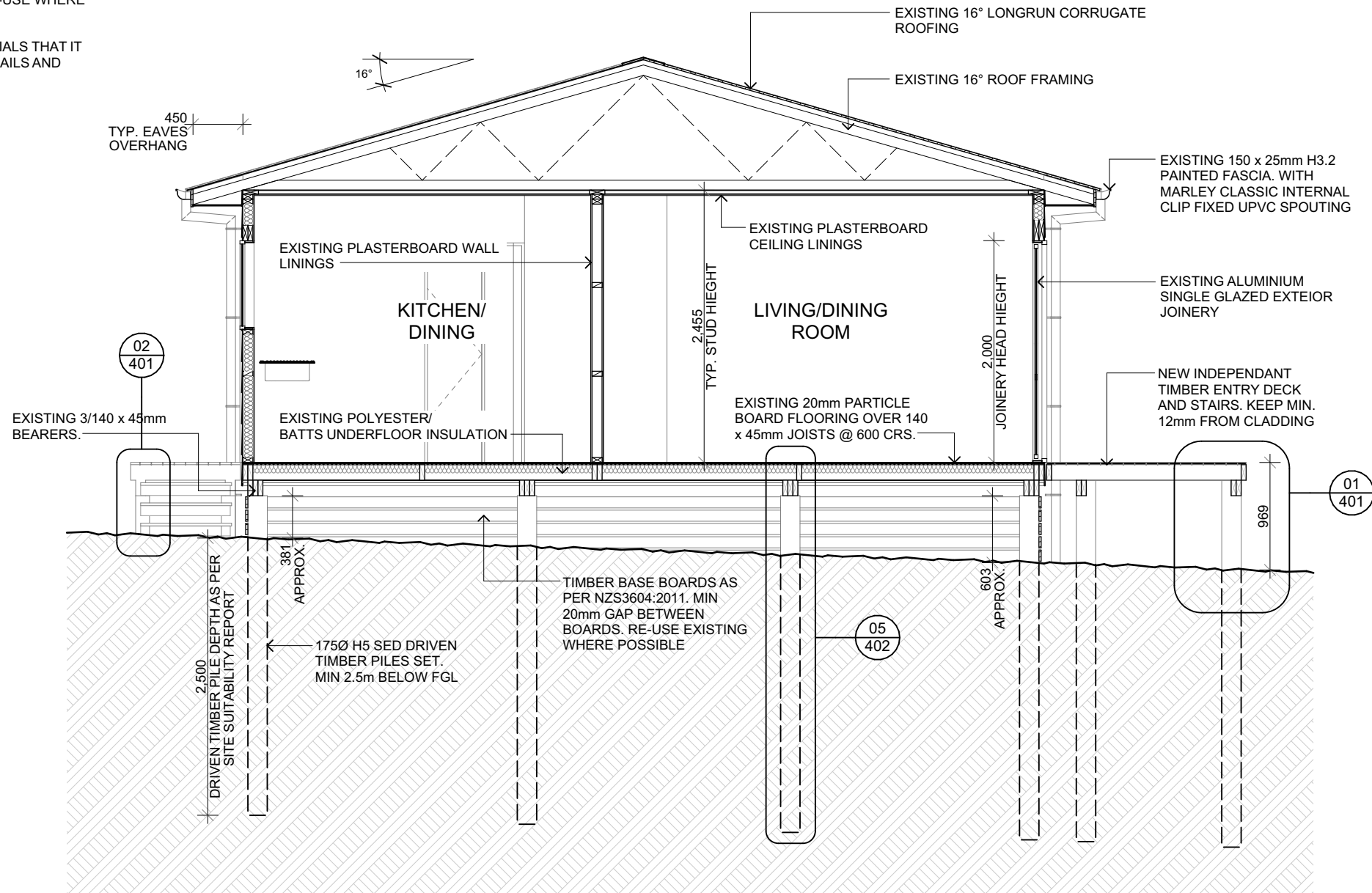
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FNDC - Approved Building Consent Document - EBC-2023-1191/0 - Pg 28 of 36 - 15/08/2023



SECTION A-A

Scale 1:50

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TITLE

SECTION A-A

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

REVISIONS

NO.	REVISION	DATE

SCALE

1:50

DRAWING CODE DRAWING ISSUE

301

BC-01

FNDC Approved Building Consent Document - EBC-2020-119110 - Pg 20 of 36 - 15/09/2020



EASTERN ELEVATION



SOUTHERN ELEVATION



SOUTHERN/WESTERN ELEVATION



NORTHERN ELEVATION

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TITLE

EXISTING PHOTOS

ISSUE DATE7/08/2020

JOB NO.20018

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WAIMA TOPU B TRUST

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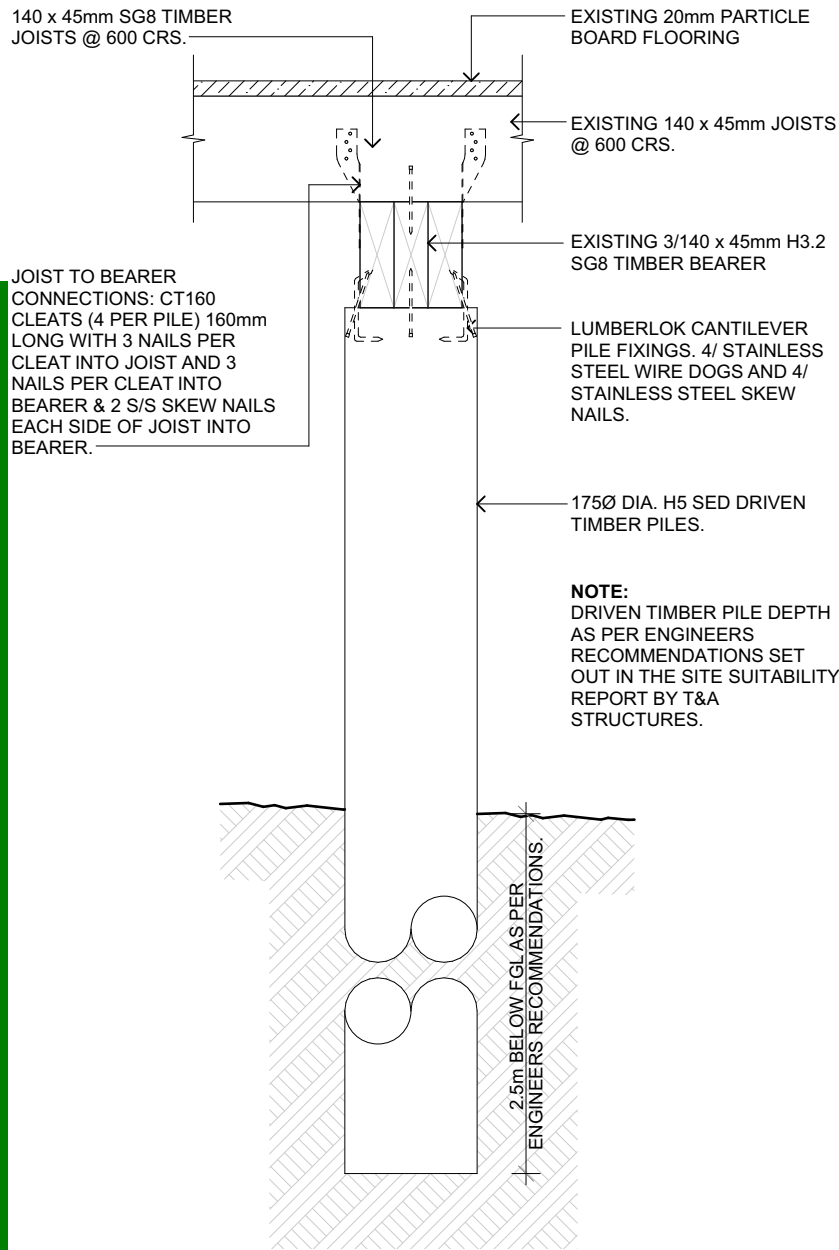
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NO.	REVISION	DATE

SCALE

DRAWING CODE302

DRAWING ISSUEBC-01



05 TYP. CANTILEVER PILE DETAIL

301 Scale 1:10

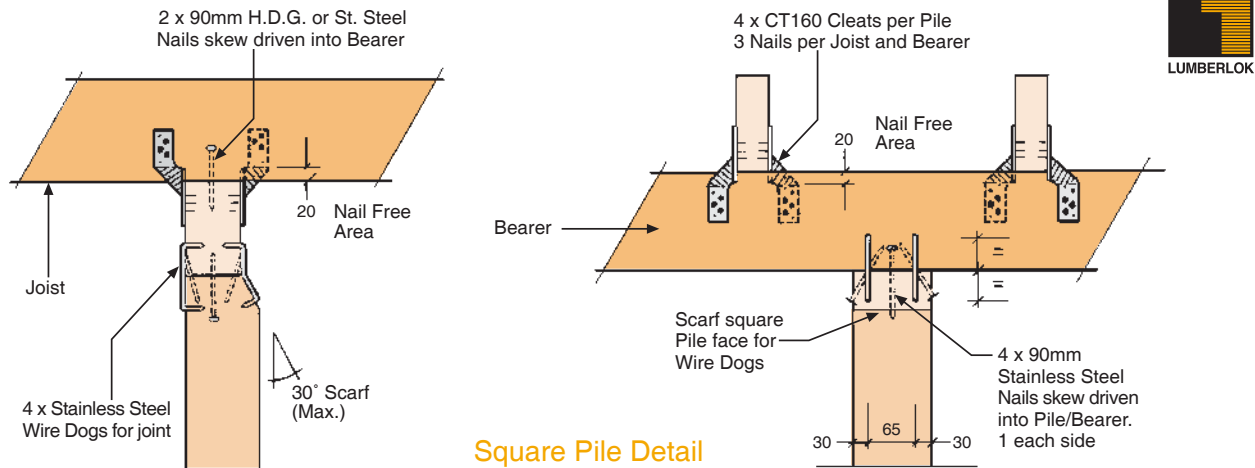
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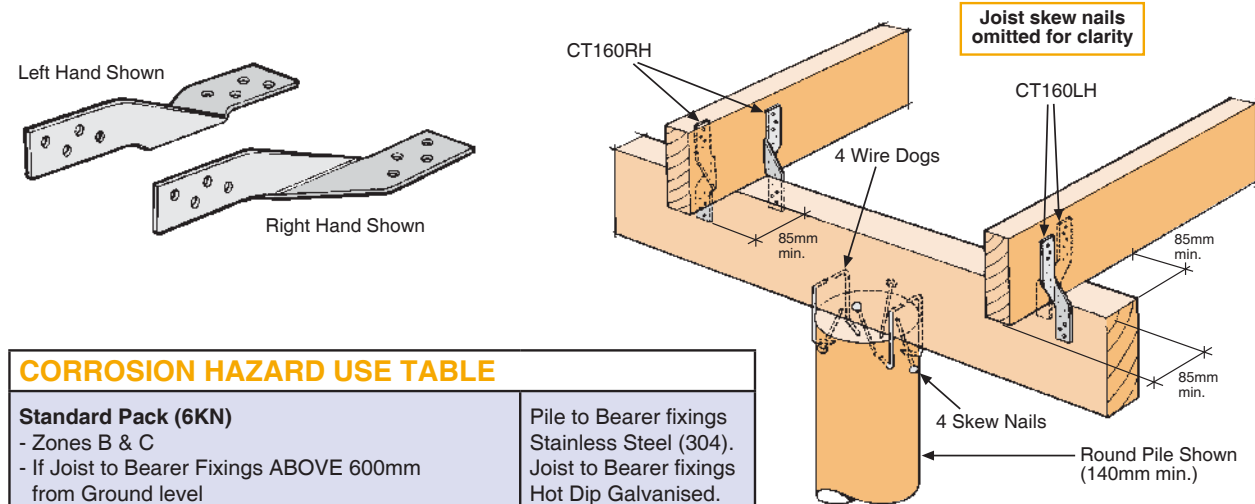
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Square Pile Detail



CORROSION HAZARD USE TABLE	
Standard Pack (6KN) - Zones B & C - If Joist to Bearer Fixings ABOVE 600mm from Ground level	Pile to Bearer fixings Stainless Steel (304). Joist to Bearer fixings Hot Dip Galvanised.
High Corrosion Pack (6KNH) - Zone D - All Fixings BELOW 600mm from Ground level	All items Stainless Steel (304).

6kN Joint Fixing Schedule

PILE TO BEARER	- Wire Dog Staples (4 per joint) Stainless Steel - 4 x 90mm Skew Nails (1 per face) Stainless Steel
JOIST TO BEARER	- CT160 Cleats (4 per pile) 160mm long - 3 Nails per Cleat into Joist - 3 Nails per Cleat into Bearer - 2 Skew Nails 90mm (1 per side)
NAILS	- 24 x 45mm x 3.55 dia. Spiral Nails (for Joist to Bearer fixings) - 4 x 90mm x 4 dia. St. Steel Nails (6KN Pack only) - 8 x 90mm x 4 dia. St. Steel Nails (6KNH Pack only)

6kN Pile Set Contents Each set represents 1 x 6kN Pile Fixing (packed 10 sets per carton) 4 x Wire Dog Staples Stainless Steel 4 x CT160 Cleats 24 x 45mm x 3.55 dia. Spiral Nails 90mm St. Steel Nails to suit 4 - 6KN pack 8 - 6KNH pack	} Refer front page for Product Finish Options
---	---



NOTES

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TITLE

TYPICAL CANTILEVER PILE DETAILS

ISSUE DATE 7/08/2020

JOB NO. 20018

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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REVISIONS

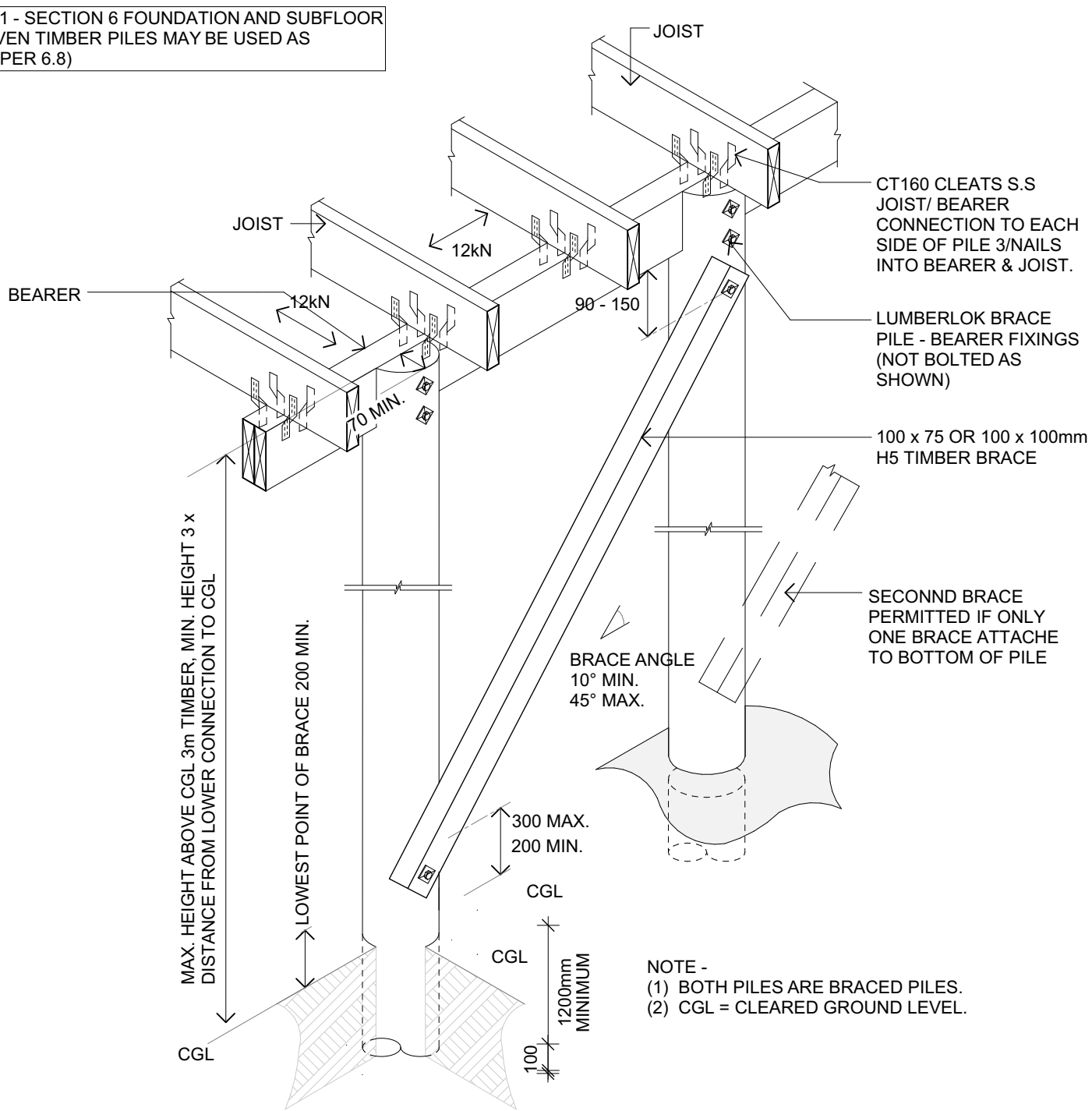
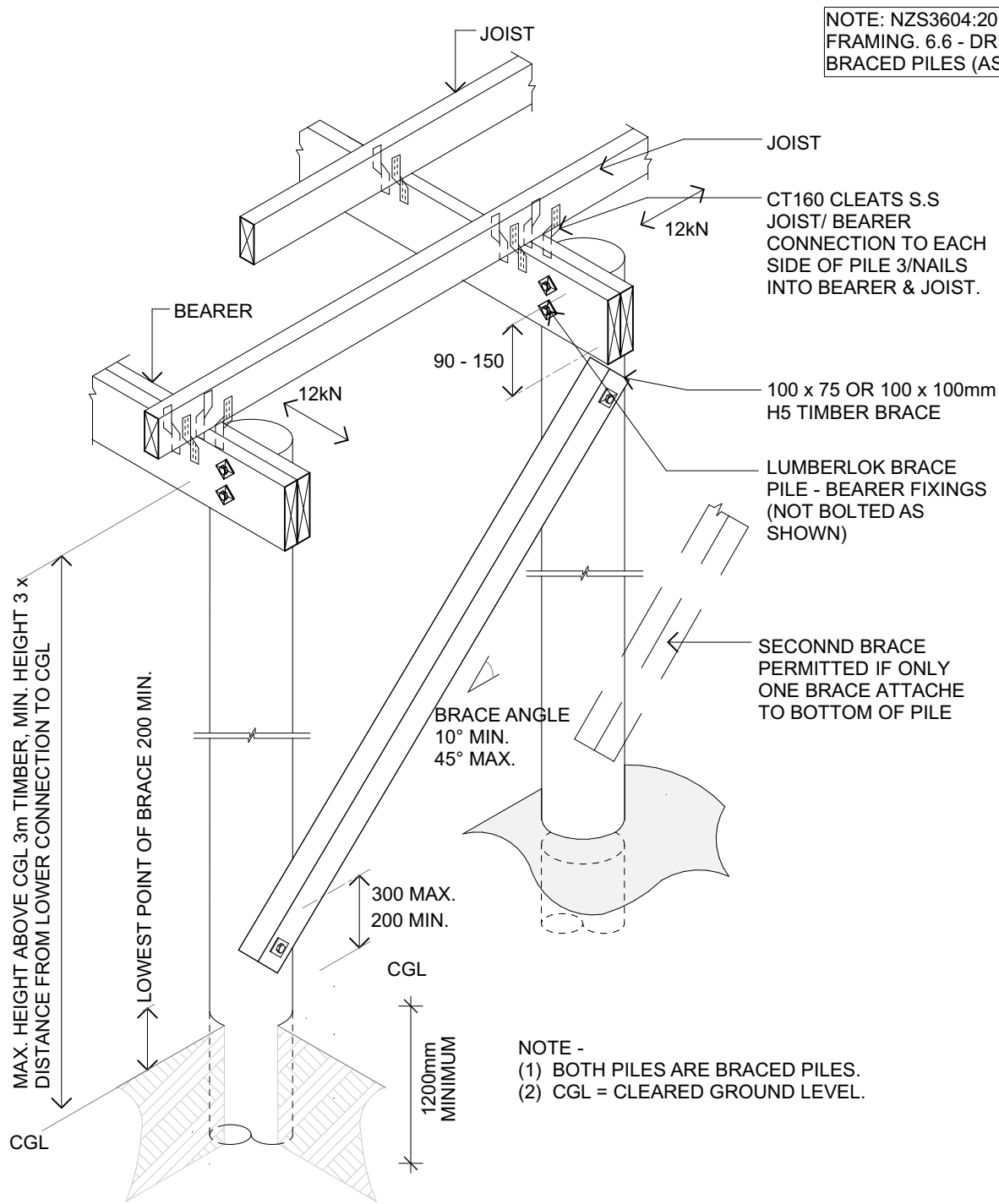
NO.	REVISION	DATE

SCALE

1:10

DRAWING CODE DRAWING ISSUE

402 BC-01



06 TYP. BRACED PILE DETAILS
203 Scale 1:20

NOTES

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TITLE

TYPICAL BRACED PILE DETAILS

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

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PROJECT

PROPOSED DWELLING RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
WAIMA, NORTHLAND 0473

REVISIONS

NO.	REVISION	DATE

SCALE

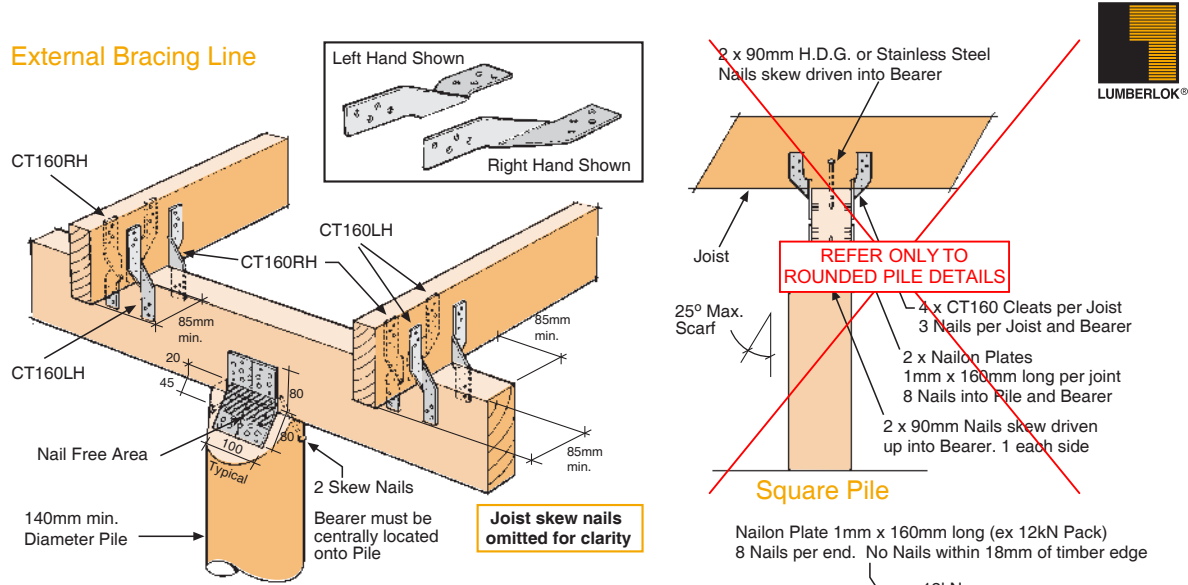
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DRAWING CODE DRAWING ISSUE

403

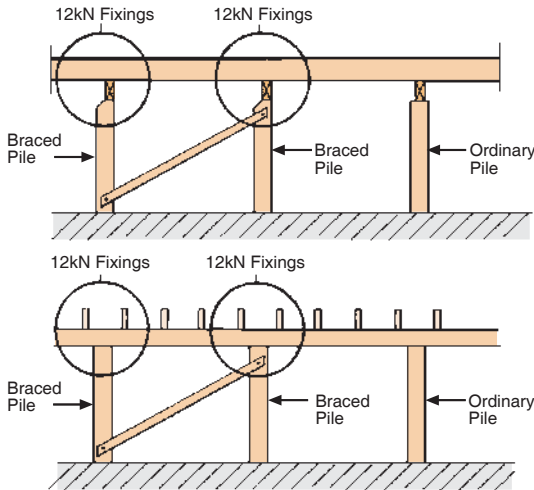
BC-01

External Bracing Line



CORROSION HAZARD USE TABLE

Standard Pack (12KN) - Zones B & C - All Fixings ABOVE 600mm from Ground level	All items Hot Dip Galvanised.
High Corrosion Pack (12KNH) - Zone D - All Fixings BELOW 600mm from Ground level	All items Stainless Steel (304).



Sample Subfloor Elevations
12kN Fixing - Pile to Bearer
- Joists to Bearer

12kN Joint Fixing Schedule

- PILE TO BEARER
- Nailon Plate (2 per joint) 1mm x 100mm (Typical) x 160mm long
 - 8 Nails per Plate into Pile
 - 8 Nails per Plate into Bearer
 - 2 Skew Nails 90mm (1 per face)
- JOIST TO BEARER
- CT160 Cleats (4 per Joist) 160mm long
 - 3 Nails per Cleat into Joist
 - 3 Nails per Cleat into Bearer
 - 2 Skew Nails 90mm (1 per side)
- NAILS
- 80 x 45mm x 3.55 dia. Spiral Nails
 - 6 x 90mm x 4 dia. St. Steel Nails (12KNH Pack only)

12kN Pile Set Contents

Each set represents 1 x 12kN Pile Fixing (packed 4 sets per carton)

- 2 x Nailon Plates 160mm long
- 8 x CT160 Cleats
- 80 x 45mm x 3.55 dia. Spiral Nails
- 90mm x 4 dia. St. Steel Angular Groove 6 - 12KNH Pack

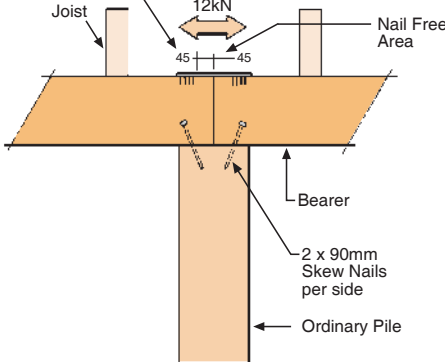
Refer front page for Product Finish Options

90mm H.D.G. Nails not included.

6. FOUNDATIONSUBFLOOR

12kN Bearer Splice

Clause 6.12.7.2
NZS 3604:2011



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NOTES

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TITLE

TYPICAL
LUMBERLOK
BRACE PILE
FIXINGS

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

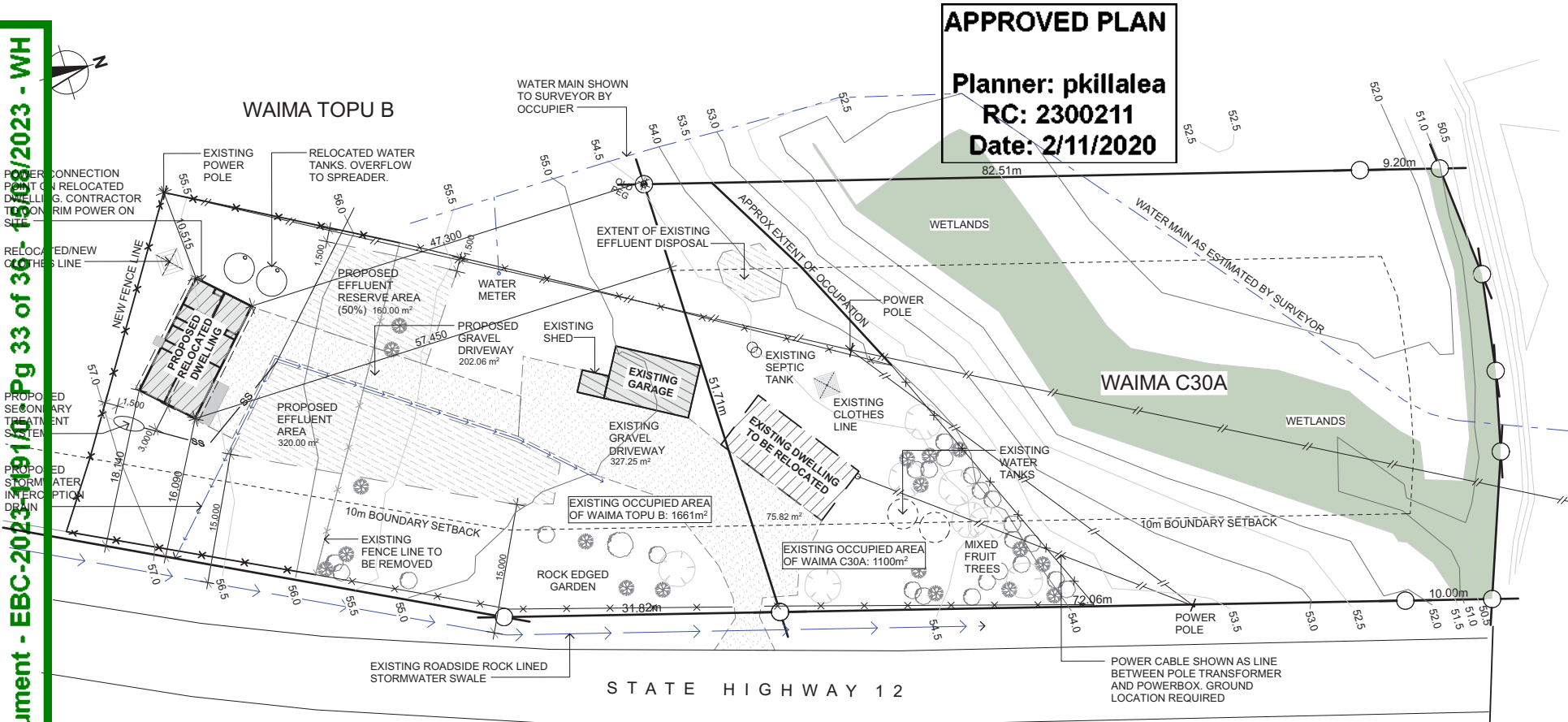
2981 STATE HIGHWAY 12,
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REVISIONS

NO.	REVISION	DATE

SCALE

DRAWING CODE	DRAWING ISSUE
404	BC-01



SITE INFORMATION:

2981 STATE HIGHWAY 12, WAIMA,
NORTHLAND 0473

LEGAL DESCRIPTION:

WAIMA C30A - 2981 SH12, TAHEKE
WAIMA TOPU B BLOCK CT No. NA52B/52

ZONING: FNDC - RURAL PRODUCTION

EARTHQUAKE ZONE: 1
WIND ZONE: VERY HIGH
EXPOSURE ZONE: C
SPRAY ZONE: NO
MAX BUILDING HEIGHT 12m

GROSS SITE AREA: 6,888,860

WAIMA TOPU B BLOCK

Scale: 1:500

GEOTECHNICAL NOTES:

PLEASE READ IN CONJUNCTION WITH SITE
SUITABILITY REPORT BY T&A STRUCTURES
DATED 02.04.2020.

SURVEY NOTES:

SITE LEVELS/CONTOURS, EASEMENTS AND
SERVICE LOCATIONS ARE TAKEN FROM
COUNCIL GIS MAPS, CT, AND ON SITE
SURVEY DATA RECORDED BY THE
DESIGNER. ALSO REFER TO
TOPOGRAPHICAL SURVEY PLAN BY
THOMSON SURVEY JOB NO. 8371 DATED
22.11.12 & SITE SETOUT PLAN BY WILLIAMS
& KING JOB NO. 22925 DATED 29.06.2020

NOTE:

PLEASE CHECK THE DIMENSIONS TO
VERIFY THE SET OUT OF THE BUILDING IS
AS REQUESTED. DESIGNERS ACCEPT NO
RESPONSIBILITY FOR ELECTRONIC DATA
SUPPLIED BY GIS MAPS/ SURVEYOR PLAN
FOR THIS SITE.

BUILDING AREAS:

EXISTING GARAGE: 61.58m²
RELOCATED DWELLING: 104.90m²
DECKS: 8.32m²

BUILDING COVERAGE

(INCLUDING COVERED AREAS) 0.002%
(166.48m² / 6,888,860m²)

IMPERMEABLE SURFACE AREAS:

BUILDING AREAS
(OVER ROOFS): 168.11m²
DRIVEWAYS,
PATIOS & PATHS: 152.52m²

STORMWATER MANAGEMENT

(709.06m² / 6,888,860m²) 0.01%
(MAX 15% BUILDING AREA)

APPROVED PLAN

Planner: pkillalea

RC: 2300211

Date: 2/11/2020

WETLANDS

WAIMA C30A

STATE HIGHWAY 12

ONSITE WASTEWATER DISPOSAL:

READ IN CONJUNCTION WITH ONSITE
WASTEWATER MANAGEMENT SYSTEM FOR
RELOCATABLE DWELLING LAND OFF
STATEHIGHWAY 12, WAIMA, KAIKOHE
WAIMA TOPU B BLOCK.
JOB NO. 19064 DATED: 02.04.2019

100Ø WC WASTE WITH 1:60 GRADIENT
65Ø SHOWER WASTE WITH 1:40 GRADIENT
65Ø VANITY/WHB WASTE WITH 1:40 GRADIENT
65Ø SINK WASTE WITH 1:40 GRADIENT
65Ø TUB WASTE WITH 1:40 GRADIENT

DRAINAGE KEY:

SS 100Ø u.P.V.C SEWER
SW 100Ø u.P.V.C STORMWATER
ORG • ORG (OVERFLOW RELIEF GULLY)
DP • 80Ømm DOWNPIPE

PLUMBING & DRAINAGE NOTES:

- ALL PLUMBING & DRAINAGE TO COMPLY
WITH AS/NZS3500
- ALL STORMWATER & SEWER PIPES ARE TO
BE 100Ø UPVC AT 1:60 MINIMUM GRADIENT.
- DRAINLAYER IS TO PROVIDE THE COUNCIL
WITH AN AS-BUILT DRAINAGE PLAN ON
COMPLETION.
- INSPECTION POINTS ARE TO BE PROVIDED
AT THE FOLLOWING LOCATIONS:
 - AT EVERY DRAIN JUNCTION TO ANOTHER
DRAIN (EXCEPT WHERE BRANCH DRAIN IS
LESS THAN 2.0MTRS & SERVES A G.T ONLY).
 - EVERY CHANGE IN HORIZONTAL
DIRECTION GREATER THAN 45°.
 - WITHIN 2.0MTRS OF BUILDING WHERE A
DRAIN ENTERS OR EXITS FROM UNDER A
BUILDING.
 - AT A DRAIN CONNECTION TO LATERAL.
- VENT PIPES MUST TERMINATE 150mm
ABOVE ROOF LEVEL & BE FITTED WITH BIRD
EXCLUDER.
- CONTRACTOR IS TO CHECK THE LOCATION
OF ALL EXISTING CONNECTIONS & FALLS
BEFORE COMMENCING ANY BUILDING WORK.

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TITLE

SITE & SITE DRAINAGE PLAN

ISSUE DATE 7/08/2020

JOB NO. 20018

DRAWN BY DF

CHECKED BY CD

PROJECT

PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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REVISIONS

NO.	REVISION	DATE

SCALE

1:500

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102 BC-01

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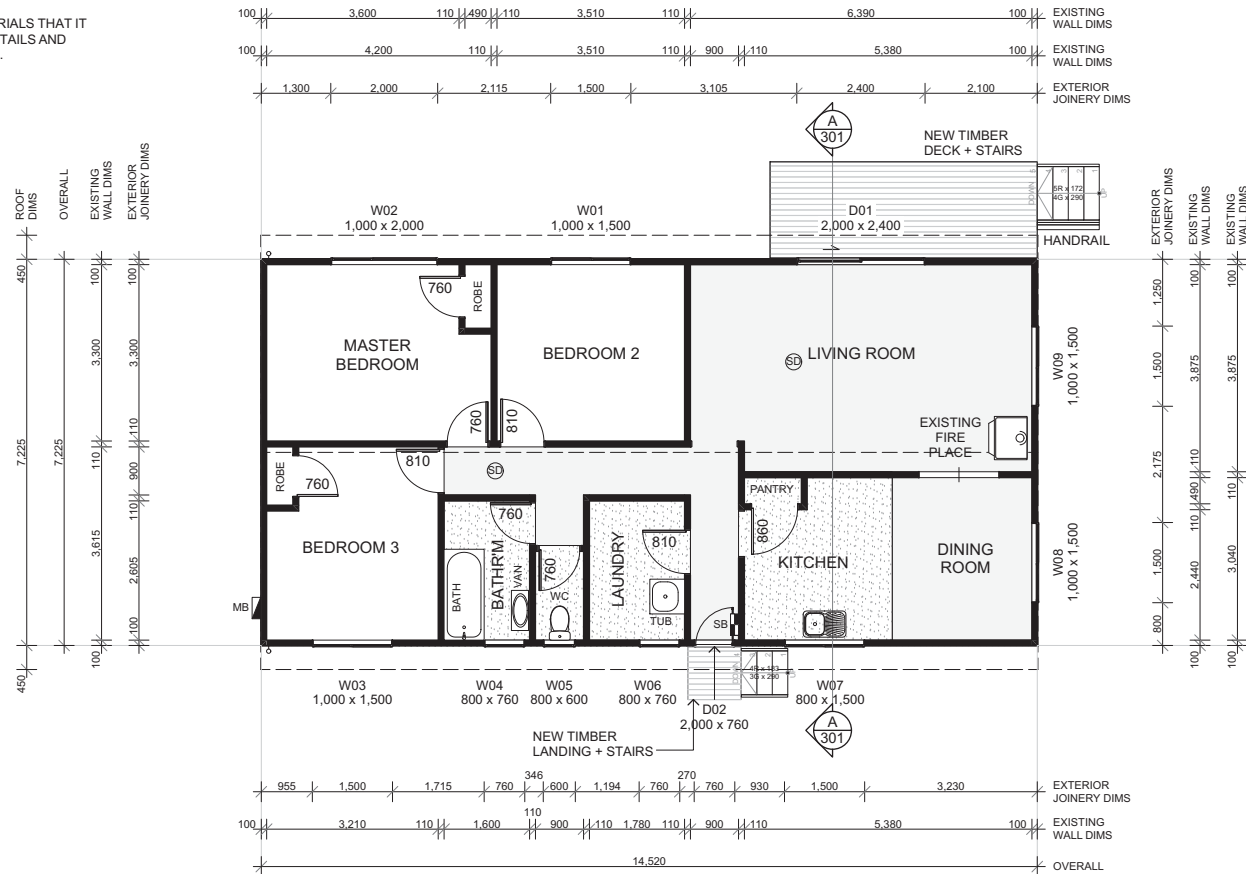
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EXISTING FLOOR PLAN

Scale 1:100



APPROVED PLAN

Planner: pkillalea

RC: 2300211

Date: 2/11/2020



KEY

SMOKE DETECTOR

DISTRIBUTION BOARD

FLOORING

CARPET

VINYL

FLOOR AREAS	
(DWELLING):	104.90m ²
TIMBER DECK:	22.24m ²
TOTAL:	90.87m ²

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TITLE

FLOOR PLAN

ISSUE DATE 7/08/2020

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WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12, WAIMA, NORTHLAND 0473

REVISIONS

NO.	REVISION	DATE

SCALE 1:100

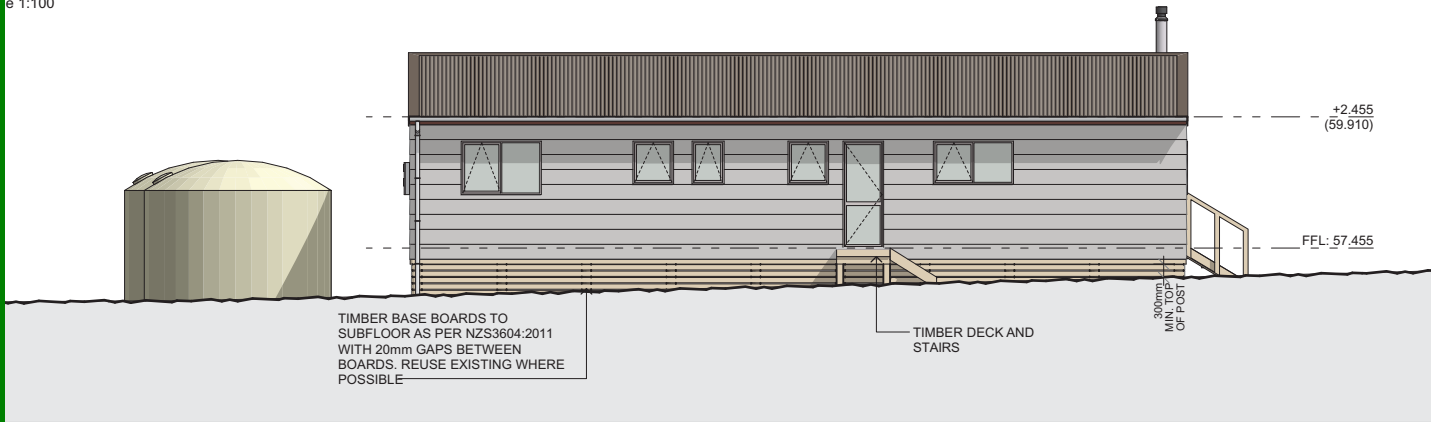
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DRAWING ISSUE BC-01



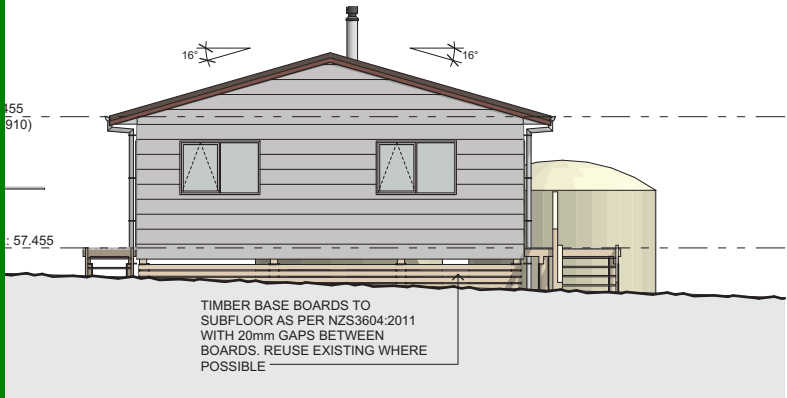
NORTHERN ELEVATION

Scale 1:100



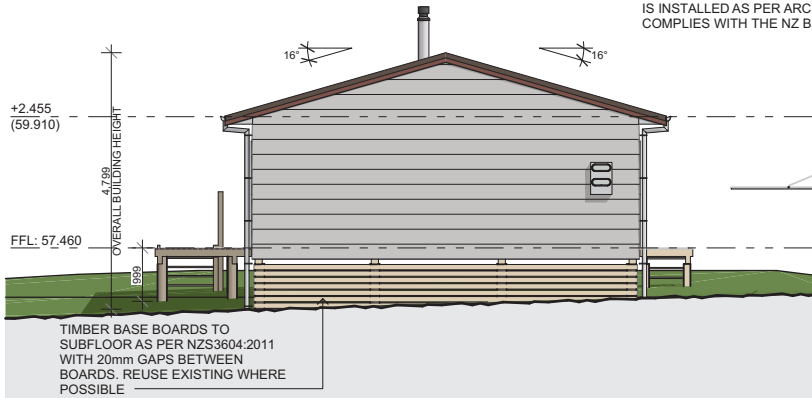
SOUTHERN ELEVATION

Scale 1:100



EASTERN ELEVATION

Scale 1:100



WESTERN ELEVATION

Scale 1:100

APPROVED PLAN

Planner: pkillalea
RC: 2300211
Date: 2/11/2020

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		8

ELEVATION NOTES

- EXISTING ROOFING**
16" CORRUGATED LONGRUN ROOFING WITH PRE-FINISHED RIDGE/BARGE FLASHINGS.
- FASCIA SPOUTING & DOWNPIPES**
150 x 25mm H3.1 PAINTED TIMBER FASCIA WITH UPVC MARLEY CLASSIC GUTTER WITH INTERNAL CLIP FIXINGS WITH 800mm UPVC DOWNPIPES.
- SOFFIT LINING**
EXISTING FIBRE CEMENT SOFFIT LINING WITH PVC JOINTERS.
- EXISTING WEATHERBOARDS (DIRECT FIX)**
JAMES HARDIE WEATHERBOARDS (FRONTIER 310mm OR SIMILAR) DIRECT FIXED OVER BUILDING WRAP.
- JOINERY**
ALUMINIUM JOINERY SINGLE GLAZED ALUMINIUM HEAD FLASHINGS.

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TITLE

ELEVATIONS

ISSUE DATE 7/08/2020

JOB NO. 20018

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PROPOSED DWELLING
RELOCATION

WAIMA TOPU B TRUST

2981 STATE HIGHWAY 12,
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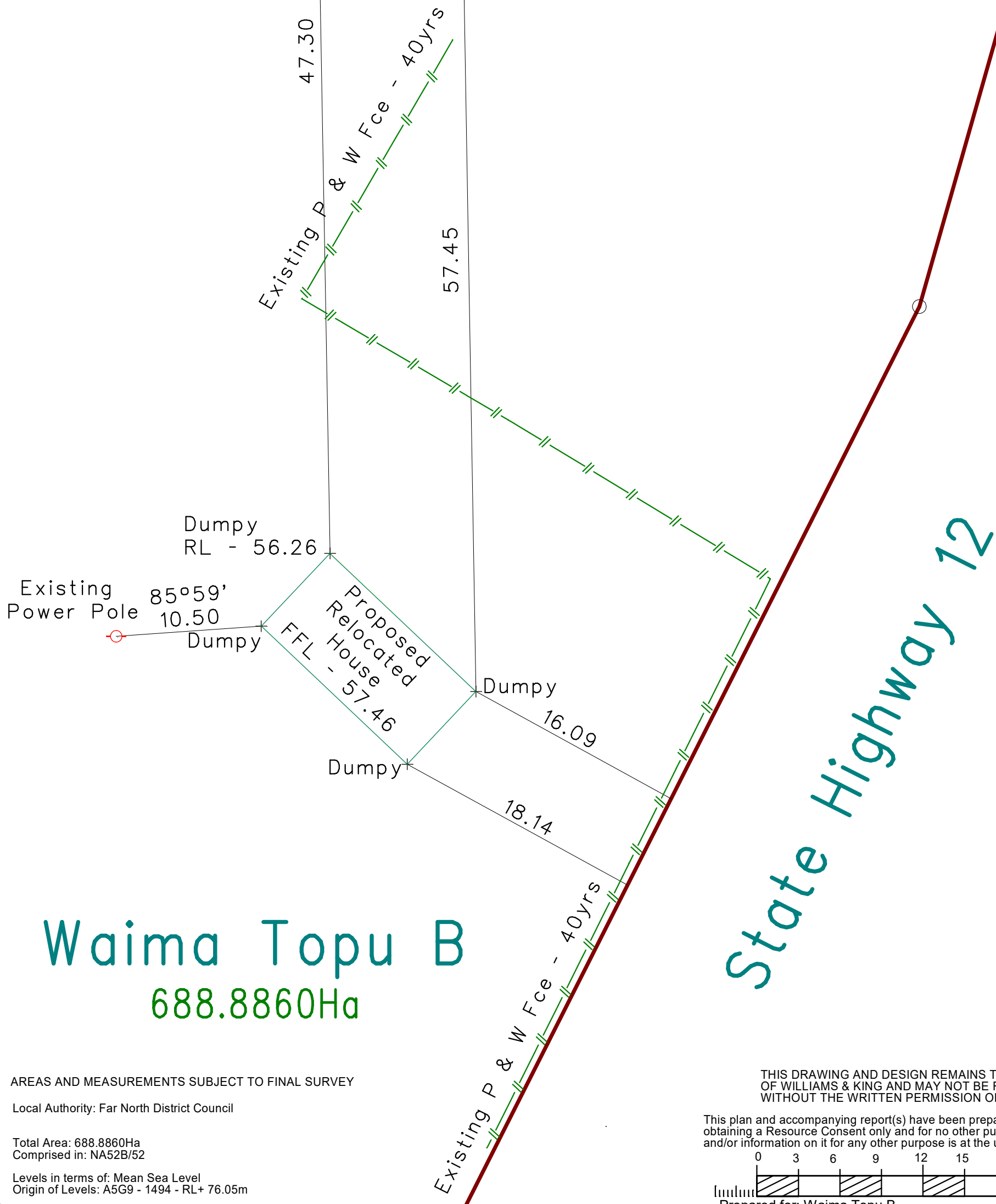
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DRAWING CODE DRAWING ISSUE

202 BC-01

Waima C30A

0.4350Ha



Waima Topu B

688.8860Ha

AREAS AND MEASUREMENTS SUBJECT TO FINAL SURVEY

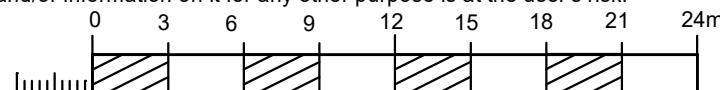
Local Authority: Far North District Council

Total Area: 688.8860Ha
Comprised in: NA52B/52

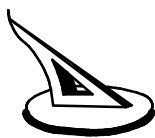
Levels in terms of: Mean Sea Level
Origin of Levels: A5G9 - 1494 - RL+ 76.05m

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Prepared for: Waima Topu B



WILLIAMS AND KING
Registered Land Surveyors, Planners &
Land Development Consultants
Ph: (09) 407 6030 27 Hobson Ave
PO Box 937 Kerikeri
Email: kerikeri@surveyandplanning.co.nz

SITE SET OUT PLAN

	Name	Date
Survey	GJ	29.06.20
Design		
Drawn	GJ	29.06.20
Rev		

ORIGINAL SCALE	SHEET SIZE
1:300	A3

22925

29 April 2025

PROPOSED PAKAKĀINGA SH12, WAIMĀ; WAIMĀ TOPU B BLOCK SAFETY OF THE ACCESS CROSSINGS

1. This proposal is for papakāinga housing and associated infrastructure located across three clusters known as the “Bull Paddock” and Development Areas 2 (“DA02”) and 4 (“DA04”) respectively.
2. This is a report on the traffic impacts of vehicle access to each area including mitigation considered necessary to address the effects of each access.

The Proposal

3. The proposal is described in plans by Akau entitled “Waimā Topu B Papakāinga”, Revision 9 dated 20 February 2025, the development plans from which are appended. No subdivision is proposed, but eighteen new “exclusive use areas” are proposed in three stages. Seventeen of those areas will initially be vacant and could be developed with as many as two new dwellings each¹. The eighteenth – area 00, will have an existing dwelling moved onto it from an adjoining site.

4. The papakāinga is proposed to be developed in three stages as follows:

Stage 1: Three new exclusive use areas in DA02 – areas 0, 1 and 2 all west of SH12, and six – areas 3 to 8, in the “Bull Paddock”, all east of SH12. Exclusive use areas 0, 1 and 2 will use a new access crossing on the western side of the highway at route position 17/14.26, with the existing access crossing on the western side of the highway² permanently closed. All new exclusive use areas in the “Bull Paddock” are proposed to lead to a new access crossing on the eastern side of the highway, also at route position 17/14.26km, with “Diagram D” crossings³ on both sides as shown in Figure 1;

Stage 2: The remaining four new exclusive use areas – 9 to 12, in the “Bull Paddock”, all of which will also lead to the new (Diagram D) access crossing at route position 17/14.26km;

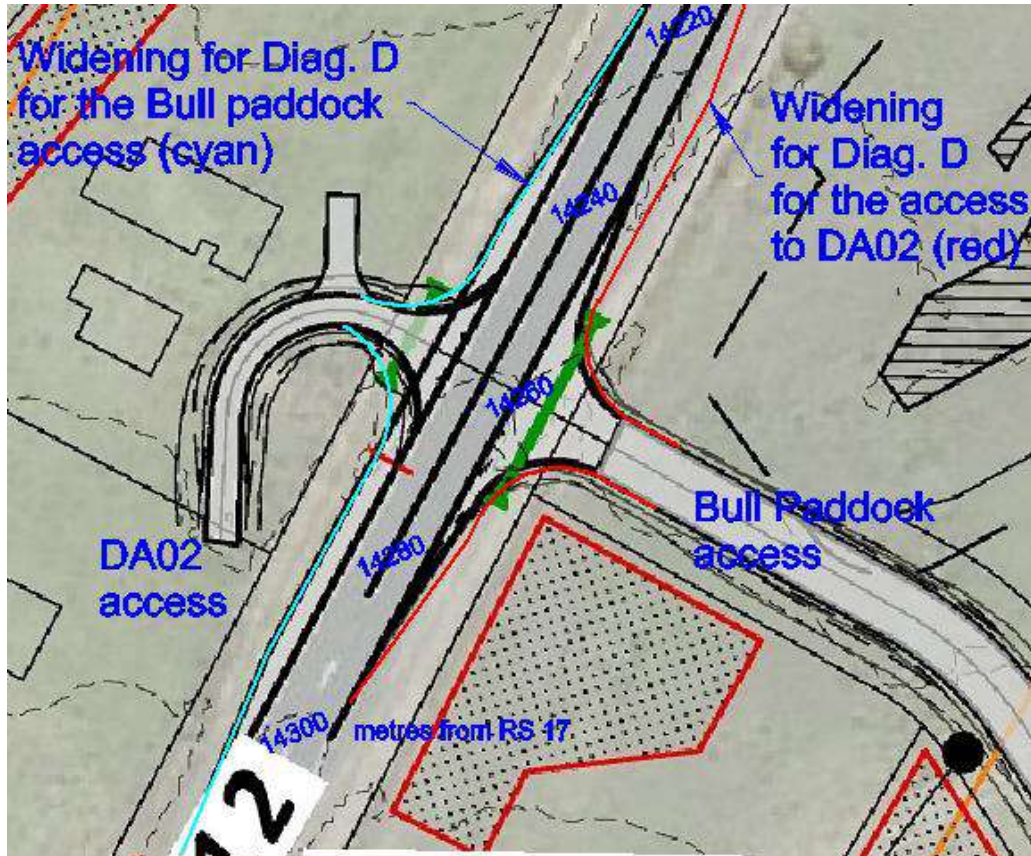
¹ The most intense development expected to be one larger dwelling up to four bedrooms along with a single-bedroom unit. An existing exclusive use area in Stage 1 will enclose an existing dwelling (#2957 SH12, which will continue to use its existing driveway crossing at route position 17/13.85km. A small number of use areas are expected to have only two single-bedroom units.

² At route position 17/14.14km.

³ Waka Kotahi *Planning Policy Manual* Table App5B/4.

Stage 3: All five new exclusive use areas in Development Area 4 (“DA04”), which is 1.2 kilometres southwest of the other clusters and northwest of SH12. All five of these areas, plus an existing area that encloses an existing dwelling, are proposed to lead to a new “Diagram C” access crossing at route position 17/15.60km. The existing access crossing, at route position 17/15.52km, will be permanently closed.

Figure 1. Widening proposed for the bull paddock and the crossing for development area 2.



Summary of Conclusions

5. I conclude as follows:

- All internal access widths and standards at their connection points to SH12 are suitable for the expected traffic use and all will be fit-for-purpose;
- All three access crossings will need sightline protection as described in Figures 1 and 2. In general, the land between the complying sightlines, associated with access crossing points, and the highway road reserve, will be protected by conditions of consent. This is to prevent the establishment of high planting and/or structures, including solid fences, within those areas and ensure that vegetation on the affected ground is maintained to a height that does not restrict the sight distances;
- Southwest of the crossing for DA04, the full SISD sight-distance standard is not quite available within road reserve. In reality, the available sight distance is more than SISD and, with a sightline entirely within road reserve, is only 0.6 seconds short of the full SISD standard. This is acceptable, especially given that the dominant direction of turns in relation to this crossing do not present a high risk; and
- The permanent closure of two existing driveway crossings will assist with the safety of traffic on SH12 and, overall, will result in only one additional vehicle crossing on SH12 as a result of the proposal.

6. Widening to the “Diagram D” standard is proposed both for the bull paddock and the crossing for development area 2, because of their location directly opposite each other (see Figure 1).
7. It is acknowledged that, according to Waka Kotahi guidelines, “Diagram D” widening will also be triggered on the access crossing for development area 4. However, previous assessments from first principles show that such treatments are not, in fact, warranted and neither is such proposed⁴. See paragraph 26.

Photo 1. A panorama from southwest (left) to northeast, centred on the proposed access crossings for DA02 and the Bull Paddock at route position 17/14.26 km.



Photo 2. A panorama from northeast (left) to southwest, centred on the western side of SH12 at route position 17/15.52 km. The proposed access crossing DA04 is 85 metres southwest of this (at right).



Traffic

8. Traffic generation is informed by counts carried out, by the Far North district council, on Wekaweka Road Waimamaku⁵ in August 2019 and late December 2020. While Waimamaku is some distance from this site, it is sufficiently representative, being a similar distance from services and common destinations⁶.
9. Those counts yielded 7-day averages of 127 and 160 movements per day respectively. There were 61 houses in the catchment of Wekaweka Road at the time of the counts, so even the higher count equates to significantly fewer than 3 movements per household per day.

⁴ A “Diagram C” crossing for development area 4.

⁵ Wekaweka Road has no outlet and only residential development (other than a community centre, most traffic from which will not have registered in the counts).

⁶ In fact, Waimamaku has a Four Square and service station with workshop. The nearest such facilities are more than 20 kilometres away from the subject site.

10. The traffic generation rate is likely to be higher in relation to this proposal, which generally enables pairs of dwellings⁷, but it is unlikely to be anywhere near the rate indicated in Waka Kotahi's *Planning Policy Manual* (10.4 movements per day per dwelling).
11. Traffic generation will also generally be lower from papakāinga housing because the kaupapa of these developments generally includes greater self-sufficiency and community cooperation including ride sharing. The average traffic generation rate for each exclusive use area in this papakāinga is conservatively estimated at 6 movements per area per day. This compares with the rate of 5 per dwelling in papakāinga, as indicated in the Far North district plan.
12. On this basis, the traffic generation of the additional dwellings is estimated at 60 movements per day from the Bull Paddock, 18 for DA02 (including the existing dwelling) and 36 for DA04 (including the existing dwelling).
13. At least three-quarters of the generated traffic is expected to travel to/from the east. This is because, while the site is close to the midpoint between the nearest towns - Rawene and Kaikohe, Kaikohe is much larger and has more services. Most other common destinations are also east of the site.
14. The traffic on this part of SH12 is estimated in Mobile Road at close to 1,700 movements per day. This is almost certainly an over-estimate. The 2024 average daily traffic at a telemetered count station east of Taheke was 1,650 movements per day. Between that station and the site, there are four side roads with traffic totalling nearly 500 movements per day. On this basis, a more reasonable estimate for traffic on SH12 through Waimā Topu B is considered to be in the range 1,300 to 1,400 movements per day.
15. The traffic generation in this locality is not expected to be seasonal because the dwellings are not likely to have absentee owners, although the traffic on SH12 is likely to be somewhat seasonal.

Assessment - Internal access

16. Private shared access is proposed to all new exclusive use areas. Some of the access to the bull paddock will lead to more than 8 dwellings in Stage 2 and that to DA04 would do so if there are two dwellings on three or more exclusive use areas.
17. Access to the bull paddock will be 6 metres wide for the first 120 metres at which point a turning head is proposed. This meets the standard for public roads that lead to as many as fifteen household equivalents⁸.
18. Beyond the turning head in the bull paddock, two side accesses are proposed. One, which leads to four exclusive use areas, is proposed to have a 4.5 metre carriageway width. The other, which leads to two exclusive use areas and is only 50 metres long, is proposed to have a 3.0 metre carriageway width which meets the council standard⁹.
19. The access to all exclusive use areas in DA04 is proposed to have a 4.5 metre carriageway width. A new driveway is proposed to the existing dwelling, with the existing driveway and access crossing permanently closed.

⁷ Albeit at least one on each area that has only a single bedroom.

⁸ Operative *Far North district plan* Appendix 3B-2.

⁹ Ibid, Appendix 3B-1.

20. The 4.5 metre carriageways are 0.5 metres narrower than the council standard¹⁰, but are adequate for two vehicles travelling in opposite directions at low speed, which will be a rare occurrence and will discourage travel at excessive speed. In fact, peer-reviewed research I recently carried out¹¹, found that the rate of harm, from road crashes and trauma, increases with increasing width on rural roadways between 4.5 and 8 metres wide, so I consider the 4.5 metre carriageways to be optimal and fit-for-purpose.
21. The only other infringements with the access rules in the operative district plan are with the traffic intensity¹² and the use of private access that leads to more than eight dwellings¹³. The width of the access that leads to more than eight dwellings is the same as that specified for the equivalent public road and will also be identical in terms of traffic effects.

Assessment - Sight Distance and Operating Speed

22. I have measured the (85 percentile) operating speed on SH12 approaching both crossing locations, at 106 km/h eastbound and a little under 90 km/h westbound¹⁴. This compares with the speed limit of 100 km/hr through this entire location.
23. The specified sight distance¹⁵ for those speeds is 270 and 210 metres respectively. These are referred to as complying sight distances and the associated sightlines as complying sightlines.
24. The complying sightlines for the Bull Paddock and DA02 encroach outside the road reserve, but only over Waimā Topu B Block. According to data from LINZ¹⁶, the complying sightlines for DA04 cross Waimā Topu B Block and two other adjoining blocks - Waimā C27A1 Block and Waimā C26A Block. This is acceptable for the following reasons:
 - With Waimā C27A1 Block, which is northeast of the proposed dwellings and crossing point, according to LINZ, its boundary is already well into the highway carriageway. The sightline on the road side of the boundary fence, along the frontage of that block, meets the full SISD standard;
 - With Waimā C26A Block, which is southwest of DA04 and associated access crossing point, the available sight distance is, in reality, more than SISD¹⁷. Even with a sightline entirely within road reserve, it is only 0.6 seconds short of the full SISD. Also, the dominant direction of exits from the site will be left turns¹⁸ for which the risk of death and serious injury is significantly lower than that of right turns (which expose the exiting vehicles to the, much riskier, collisions at right-angles).
25. In Figures 2 and 3, the house locations in the underlying plans¹⁹ are indicative only and might not depict the final size, location and orientation of the houses on each exclusive use area.

¹⁰ Ibid 9.

¹¹ Which was peer-reviewed in 2024.

¹² Rule 15.1.6A.2-6

¹³ 15.1.6C.1.1 Private accessway in all zones, although this rule refers to household equivalents, not dwellings, so is arguably not actually infringed.

¹⁴ This was calculated from the speeds of a random sample of twenty existing vehicles.

¹⁵ Waka Kotahi *RTS-6 Guidelines for visibility at driveways*. That specifies “safe-intersection sight distance” for arterial roads and State highways. This is reinforced in the *Planning Policy Manual* Table App5B/1.

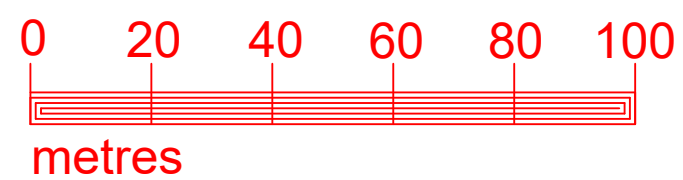
¹⁶ Cadastral boundaries and ortho-rectified aerial photos.

¹⁷ Because there is only a post and wire fence on the boundary and well-managed pasture on the other side of the fence - no trees, structures or other obstructions.

¹⁸ With the only common, nearby, destinations in the other direction being a primary school and one marae.

¹⁹ By RS Eng.

Figure 2



Waima Topu B Block

Development Area 02
(two new dwelling pairs)

Complying sightline; crossing for DA02 (@14260m)

Complying sightline; crossing for Bull Paddock (@14260m)

Estimated location of boundary fence (not surveyed)

Land between the sightlines and fence; shaded red; ~0.22ha; maximum 12.8 metres inside the road boundary

STATE HIGHWAY 12

Bull Paddock
(ten dwelling pairs)

5.0m setback from roadside drain

SH12 "route position", metres from PS 17

Plan Area 2
Land Impact Sightlines


PO Box 3048,
Onerahi
Whangarei 0142
Tel. 09 436 5534
info@e-outcomes.co.nz

Project
Proposed Papakainga SH12 Waima

Client
Waima Topu B Trust

Surveyed by
LINZ

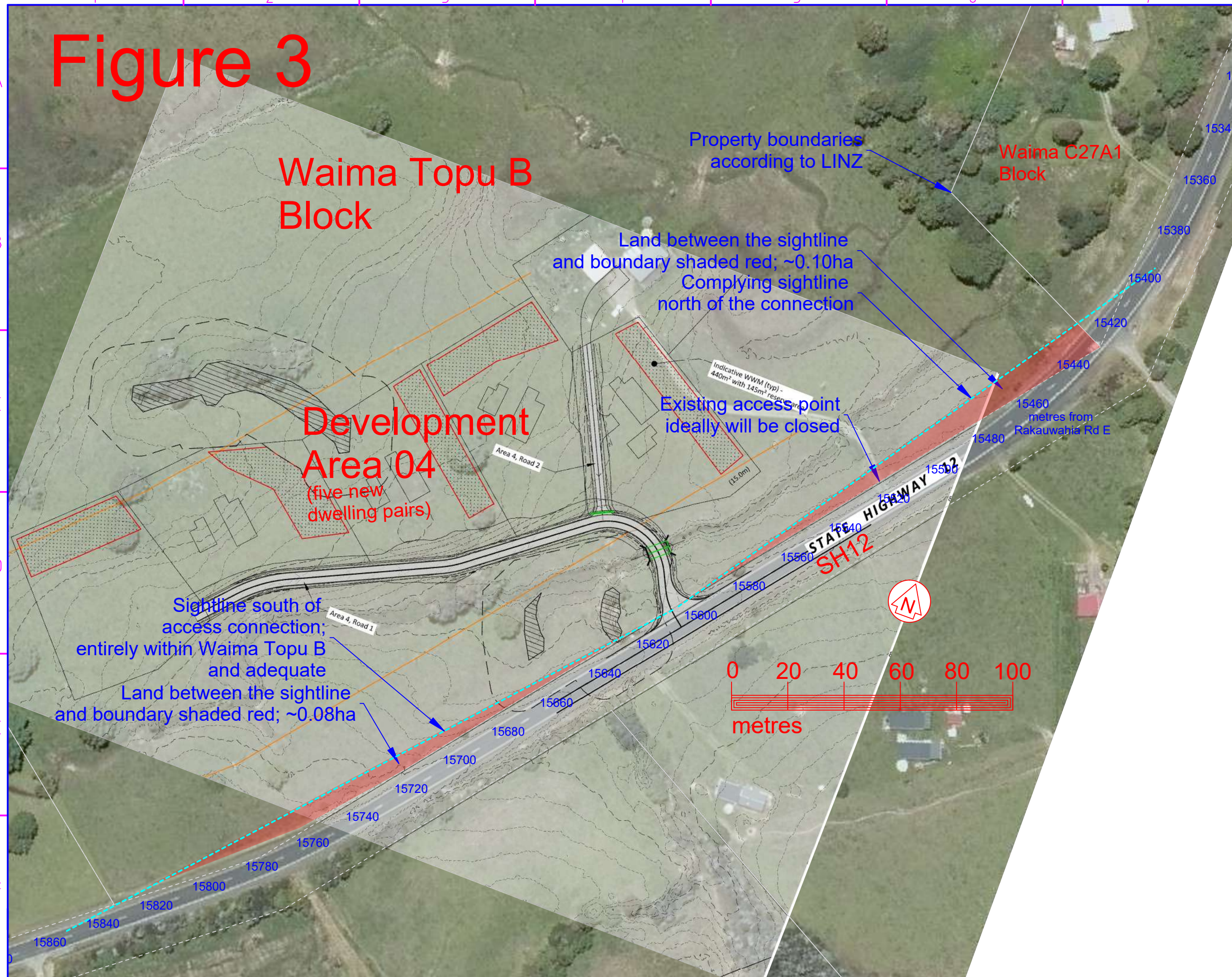
Amendments

Council ref.

Scale 1: 1250 at A3

Date 28-Apr-2025 17:04:02

Figure 3



Plan Area 4 Land Impact Sightline



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Project
**Proposed
Papakainga
SH12 Waima**

Client
**Waima Topu B
Trust**

Surveyed by
LINZ

Amendments

Council ref.

Scale 1: 1250 at A3
Date 28-Apr-2025 17:04:04

Turn Treatments

26. Recent assessments I have carried out of “turn treatments”, from first principles, have concluded that those are not actually warranted for this level of traffic. For example, a recent assessment of Wharekawa Road, Oue (also in the south Hokianga), found that no such treatment is warranted – not even “Diagram D”. In particular, “Channelised” treatment for right-turn entries is not warranted according to AUSTROADS²⁰ and lesser treatments would not have a benefit/cost ratio anywhere near 1.0 even if the costs of the upgrading were close to the average for all such locations²¹. Wharekawa Road leads to nearly fifty dwellings and that part of SH12 is only slightly less busy than the subject location, so that intersection is many times busier than any of the access crossings in the subject proposal.
27. Despite this, Diagram D widening is proposed for both Development Area 2 and the Bull paddock.

Consultation

28. The main impact of the generated traffic is on State highway 12 at the access crossing points. Waka Kotahi/the NZ Transport Agency is being consulted about this. The location of the access point for Development Area 2, opposite that of the Bull paddock, is a response to the consultation prior to the date of this report.

Report prepared by Dean R Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ

²⁰ Guide to Traffic Management Part 6, Figure 3.25a.

²¹ The AUSTROADS warrants are based on benefit cost ratios.



LEGEND

- Property Boundary (LINZ GIS data)
- Existing features
 - Major contour - 1m
 - Minor contour - 0.25m
 - Mapped wetland
 - Drain/stream
 - Power line
 - Power pole
- Setbacks
 - 10m setback from power line
 - 10m setback from property boundary
- Proposed development
 - Exclusive Use Areas (3000m² per site)
 - 10m setback from mapped wetland
 - 20m setback from mapped wetland
 - Proposed riparian planting
 - Proposed wetland planting
 - Proposed road (8m cartilageway)
 - Proposed shared accessway (5m cartilageway with passing bays)
 - Proposed driveway (5m wide)

1.02	20.02.25	9
1.02	28.01.25	8
1.02	14.01.25	7
1.02	19.11.24	6
1.02	20.10.24	5
No.	Date	Revision

ĀKAU

Job:
Waimā Topu B Papakāinga

Scale:
1:750@ A1
1:1500@ A3
Drawing Title:

Stage 3 Layout Plan

Drawing Number: 1.02
Revision: 9

Issued for:

Resource Consent



CIVIL SUITABILITY REPORT

State Highway 12

Waima

CIVIL SUITABILITY REPORT

State Highway 12

Waima

Report prepared for: Waima Topu B Trust

Report reference: 18837

Date: 28 March 2025

Revision: 2

Document Control

Date	Revision	Description	Prepared by:	Reviewed by:	Authorised by:
30/01/2025	1	Draft	C Hay	D Platt	M Jacobson
28/03/2025	2	Issue for RC	C Hay	D Platt	M Jacobson



association of
consulting and
engineering

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A	Drawings
B	Calculations

File: 18837

28 March 2025

Revision: 2

CIVIL SUITABILITY REPORT

State Highway 12

Waima

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Waima Topu B Trust to investigate the suitability of their property (Waima Topu B Block) for a papakainga development. The purpose of this report is to assess firefighting water supply, stormwater treatment, attenuation and disposal, assess the flood hazard, and provide preliminary design details of the on-site domestic wastewater disposal systems.

The client proposes to develop 17 new exclusive use areas for papakainga housing. The two primary development areas (02 & 04) are discussed below and are indicated on the drawings in Appendix A. RS Eng has prepared a geotechnical report supporting the development; *"Geotechnical Investigation Report, SH12, Waima"* 20 December 2024. Stage numbers are shown on the drawings attached.

2.0 Site Description

The properties are located adjacent to the Whawharu Stream, on the northern and southern sides of State Highway 12, being approximately 1.2km and 2.5km, from its intersection with Puha Road. The areas generally comprise of gentle to moderate slopes. The valley falls towards the northeast. Ground coverage across the area is typically pasture.

3.0 Field Investigation

During the aforementioned geotechnical report, investigations were completed across the areas of potential future on-site effluent disposal. Refer to the RS Eng geotechnical investigation report for further details.

4.0 Stormwater

4.1 Flooding

The Northland Regional Council has mapped the majority of Northland's flood hazards. This valley appears to be excluded from the mapping. To determine the potential flooding in the valley from the Whawharu Stream, and assess the risk to the proposed development, RS Eng has prepared a flood model using HecRas 2D. A summary of the model is given below and in Table 1.

The modelling was completed in Hec-Ras V6.3, using the TR55 Type 1A storm. The modelled grid size is 6m across the catchment, refined to 3m adjacent to Area 02 and 04. The NRC LiDAR (2018) was used as the terrain model. The model extends downstream of the site sufficiently to prevent tailwater conditions from having an effect.

Table 1: HecRas Model Summary

Model Type	Direct rainfall on grid
Rainfall Distribution	Type 1A 24hr – 3min intervals
Rainfall Depth (1% AEP+CC)	242mm
CN Value (MPD)	Blanket 74
Boundary Outlet	Adjacent to Taheke River.
Manning's n	Blanket 0.04
Equation Set	SWE-ELM
Computation Interval	2s
Modelled Grid	6m, refined to 3m adjacent to the development area.

The mapped 1% Annual Exceedance Probability (AEP) + Climate Change (CC) flood extent is shown on the drawings enclosed in Appendix A. Figures 1 & 2 provide an indicative extent of the 1% AEP +CC flood extent. We understand that the buildings proposed will typically be of timber floor construction.

Provided buildings are placed on land free of flood waters during the 1% AEP + CC event, and their floors are set at least 0.5m above existing ground level, minimum floor levels will achieve compliance with the NZ Building Code.

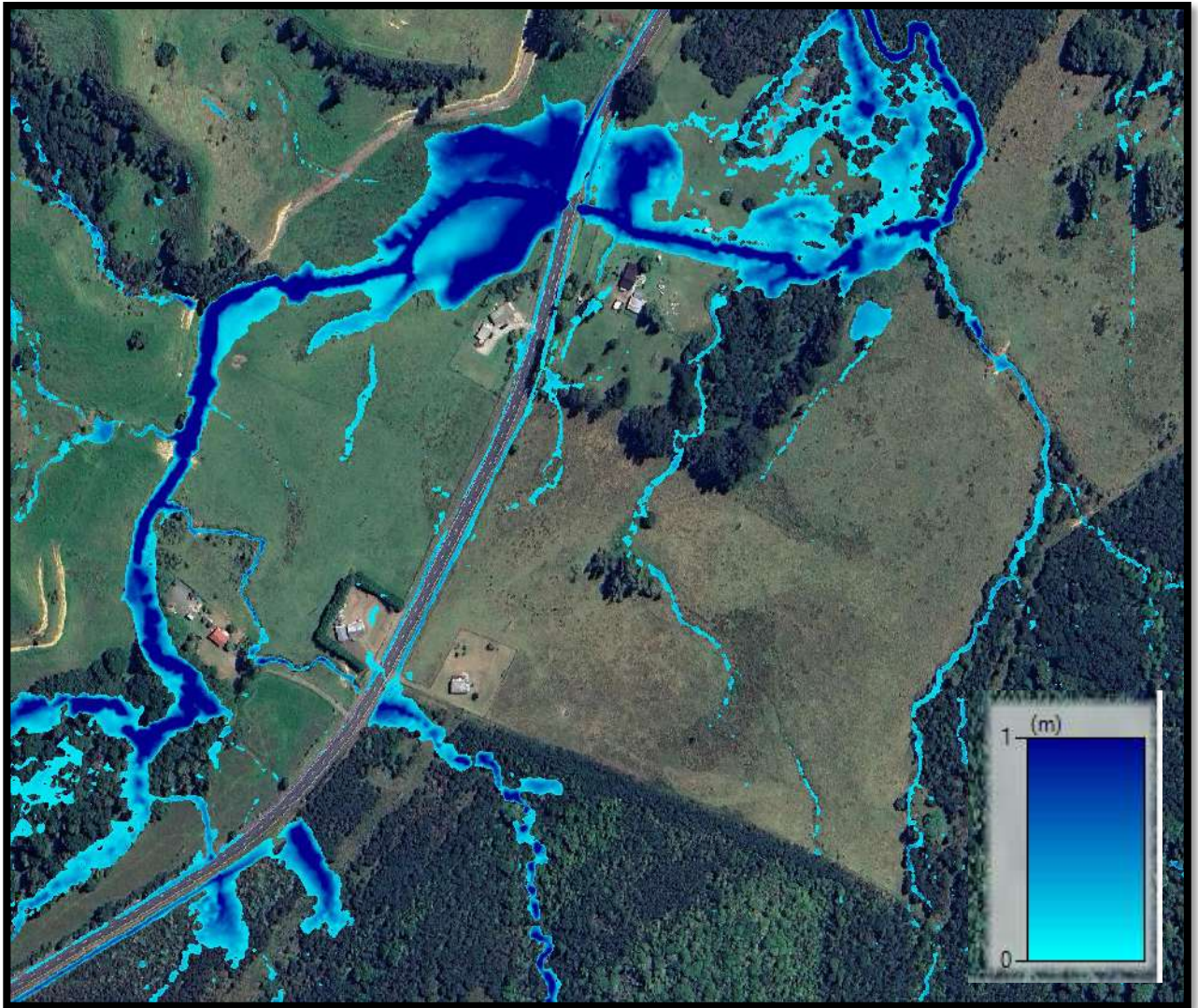


Figure 1: Area 02 – 1 % AEP + CC Flood Depth (m).



Figure 2: Area 04 – 1 % AEP + CC Flood Depth (m).

4.2 Overland Flows

Several shallow overland flow paths were identified during the modelling, separate to the main flows from the Whawharu Stream. The overland flow paths are indicated on Sheets 16 & 17 of Appendix A. Crossing the overland flow paths typically comprises culverts and sag points in the proposed road/s.

The proposed works do not divert or alter the route of the existing overland flow paths. The overland flow path entry and exit points from the property will not be altered.

4.3 Culverts

Culverts are proposed to allow stormwater/flood waters to pass the proposed roads. The culverts are designed in accordance with the FNDC ES 2023, passing a 10%AEP+CC event, and NES Freshwater 2020.

4.3.1 Area 2 – Unnamed Stream

These culverts are shown on Sheets 13 of Appendix A. A summary of the calculations is provided in Table 2 below. To achieve compliance with the NES and FNDC Engineering Standards, two 750mmø culverts are required.

Table 2: Area 2 - Unnamed Stream Culvert Calculations Summary – 10%AEP+CC

Catchment Area (ha)	Time of Concentration (min)	Weighted CN	Peak Flow (m ³ /s)	Culvert Size (mm)	Design Headwater Depth (m)
4.85	12.5	74	0.31	2/750ø	0.54

4.3.2 Area 4 - Whawharu Stream

These culverts are shown on Sheets 7 of Appendix A. A summary of the calculations is provided in Table 3 below. To achieve compliance with the NES and FNDC Engineering Standards, two 2100mmø culverts are required.

Table 3: Area 4 Whawharu Stream Culvert Calculations Summary – 10%AEP+CC

Catchment Area (ha)	Time of Concentration (min)	Weighted CN	Peak Flow (m ³ /s)	Culvert Size (mm)	Design Headwater Depth (m)
85.75	36.1	76	4.51	2/2100ø	0.87

4.3.3 Summary

Tables 4, 5 & 6 below provide a summary of the NES Freshwater 2020 information requirements for the culverts, as per Regulations 62.3, 63.3, and 70.

Table 4: NES-F 2020 – Regulation 62(3) Information Requirements

No.	Information Requirement	Area 2	Area 4
A	The type of structure	Round Culvert	Round Culvert
B	The geographical coordinates of the structure	35°28'56.4"S 173°37'18.2"E	35°28'58.6"S 173°37'16.1"E
C	The flow of the river in the connected area	½ 2 yr ARI Q=55l/s	½ 2yr ARI Q=875l/s
D	Whether the water is tidal at the structure	Not tidal	Not tidal
E	at the structure's location;		
i	the width of the river or connected area at the water's surface; and	<1m. (Ephemeral water course).	2.5-3m
ii	the width of the bed of the river or connected area:	1m	2.5-3m
F	whether there are improvements to the structure to mitigate any effects the structure may have on the passage of fish	No specific improvements proposed.	
G	whether the structure protects particular species, or prevents access by particular species to protect other species	Refer to ecological assessment.	
H	the likelihood that the structure will impede the passage of fish	Unlikely	
I	visual evidence (for example, photographs) that shows both ends of the structure, viewed upstream and downstream	Not installed.	

Table 5: NES-F 2020 Culvert – Regulation 63(3) Information About Culverts

No.	Information Requirement	Area 2	Area 4
A	Culvert Identification Number	-	-
B	Ownership Status	Private	Private
C	No. Barrels	2	2
D	Culvert Shape	Round	Round
E	Culvert Lengths	6m	8m
F	Culvert Dimensions	750mmø	2100mmø
G	Drop at Culvert Outlet	None	None
H	Length of Erosion at Culvert Outlet	None	None
I	Culvert Material	RC or HDPE	RC or HDPE
J	Mean Depth of Water Through Culvert (½ 2yr ARI)	0.06m	0.24m
K	Mean Velocity of Water Through (½ 2yr ARI)	0.35m/s	0.5m/s
L	Low velocity zone downstream of the culvert	No	Yes
M	Type of Bed Substrate that is in the Culvert	Grassed	Clay and Shingle
N	Remedial Features	None	None
O	Whether the culvert has wetted margins	Yes	Yes
P	Culvert Slope	0.01	0.01
Q	Culvert Alignment	Flow Parallel	Flow Parallel
R	No. of other type of Structures	-	-
S	Is there any Aprons or Ramps	No	No

Table 6: NES-F – Regulation 70(2) Information Requirement

No.	Information Requirement	Area 2	Area 4
A	the culvert must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert	The stream beds are proposed to be returned to the pre-culvert condition following installation.	
B	the culvert must be laid parallel to the slope of the bed of the river or connected area	Proposed as Parallel to stream bed.	Proposed as Parallel to stream bed.
C	the mean cross-sectional water velocity in the culvert must be no greater than that in all immediately adjoining river reaches	The culverts proposed result in a cross sectional area equal to or greater than the adjoining	
D	the culvert's width where it intersects with the bed of the river or connected area (s) and the width of the bed at that location (w), both measured in metres, must compare as follows	s=1.4m w=1m	s=4.0m w=2.5-3m
i	where $w \leq 3$, $s \geq 1.3 \times w$	Achieved	Achieved.
ii	where $w > 3$, $s \geq (1.2 \times w) + 0.6$	NA	NA
E	the culvert must be open-bottomed or its invert must be placed so that at least 25% of the culvert's diameter is below the level of the bed	Buried 40%	Buried 45%
F	the bed substrate must be present over the full length of the culvert and stable at the flow rate at or below which the water flows for 80% of the time	Proposed.	Proposed.
E	the culvert provides for continuity of geomorphic processes (such as the movement of sediment and debris)	The culverts are parallel to the stream both vertically and horizontally and have sufficient capacity to allow sediments and potential debris to pass.	

4.4 Attenuation

The FNDC District Plan, as a permitted activity allows for up to 15% impermeable surfaces. The property in question equates to a total site area of 688ha. The maximum impermeable surface site cover is 103ha.

The development proposes impermeable surfaces likely less than 2ha. Stormwater attenuation is not required.

Local effects to neighbouring properties and the Whawharu Stream from the potential increase in stormwater runoff from the development are considered insignificant. The catchment to Area 2 of the Whawharu Stream is approximately 300ha, with a peak flow during the 1%AEP+CC event in the order of 39m³/s. The development will cause an increase runoff of 40l/s, resulting in an increase in flow in the Whawharu Stream of 0.1%.

4.5 Treatment

Stormwater treatment will be required for runoff from accessways and paved surfaces. The treatment will be provided by grass lined swale drains running parallel to the proposed accessways.

4.6 Disposal

4.6.1 Area 02 (South of SH12)

Stormwater from the impermeable surface (both papakainga and accessways) shall discharge to water table drains or a stable watercourse where feasible. Where disposal is not feasible to the flow paths, surface water shall be returned to sheet flow using dispersal trenches or similar devices.

4.6.2 Area 02 (North of SH12) & Area 04

Stormwater from the papakainga in these areas shall be discharged to ground via dispersal structures or the roadside water table drains where feasible.

5.0 Wastewater Disposal

To dispose of wastewater, individual on-site wastewater treatment and disposal systems for the individual papakainga are proposed. Site evaluation, preliminary design, and review of the Regional Plan compliance for the areas are discussed below.

5.1 Site Evaluation

The land available for effluent disposal is generally gently sloped (less than 10°) and linear planar. Subsoil investigations have assessed the soil as Category 5 as per TP58 across the sites.

The land available and suitable for the disposal fields are indicated on Sheets 14 and 15 of Appendix A.

5.2 Concept Design

A concept design has been completed assuming a papakainga of four bedrooms and one bedroom unit, using standard water reduction fixtures in accordance with TP58. Standard water reduction fixtures include aerated faucets, dual flush 6/3 water closets, shower flow restrictors, and automatic water conserving washing machines.

Potable water supply is expected to be from rainwater storage tanks. RS Eng recommends the use of secondary treatment systems loading subsurface pressure compensating drip irrigation lines within a planted and fenced area.

Table 7: Wastewater Disposal Calculations – Individual Papakainga

Number of Bedrooms	4 + 1	No.
Number of Persons	6 + 2	No.
Flow Allowance	165	L/person/Day
Total Flow	1320	L/Day
Design Irrigation Rate (DIR)	3.0	L/m ² /day
Irrigation Field Area	440	m ²
Reserve Area	145	m ²

Depending on the final configuration of buildings on the respective sites, increased occupancy may be suitable.

5.3 Northland Regional Council Discharge Compliance

The proposal will result in some 17 new on-site discharges. The individual discharges are expected to range from 700-1500L/day, for each exclusive use area. The NRC has confirmed to RS Eng, a discharge consent is not required, provided individual systems discharge less than 2000L/day.

Table 8 below demonstrates compliance. The indicative on-site effluent disposal fields indicated on Sheets 14 and 15 of Appendix A, have setbacks to achieve the permitted activity status of the NRC Regional Plan.

Table 8: NRC Permitted Discharge Compliance

Feature	Regional Plan	Available
Identified Stormwater Flow Path	5m	>5m
River, Lake, Pond, Stream, Dam or Wetland	15m	>15m
Existing Water Supply Bore	20m	>20m
Property Boundary	1.5m	>1.5m
Groundwater	0.6m	>0.6m
10m Buffer Zone	Slopes >10°	<10°
Floodplain Exclusion	5% AEP	Above 5%AEP
Reserve area	30%	33%

6.0 Water

6.1 Potable

Individual tanks on site will supply drinking water to the papakainga. Potable water shall be treated in accordance with G12 of the NZ Building Code and the New Zealand Drinking Water Standard.

6.2 Firefighting

As per SNZ PAS 4509:2008, at least 45m³ of permanent water storage for firefighting water supply shall be provided, located within 90m of all residential buildings, with a fire service coupling or provision of alternative suitable access for a fire appliance and crew.

As an alternative, individual on-site 10m³ tanks can be provided, subject to the approval of the New Zealand Fire Service.

7.0 Earthworks

The bulk earthworks proposed to form the accessways are shown in the drawings attached in Appendix A. In numbers the earthworks are described in Table 9 below.

Table 9: Stage Earthworks Details

Detail	Stage			
	1 (west of SH12)	2 (east of SH12)	3	4
Cut volume	55	525	295	150
Max cut depth	0.6	1.4	0.8	1.2
Fill volume	10	150	65	10
Max fill depth	0.2	0.7	0.7	1.2
Earthworks area	350	2340	1670	620

RS Eng has reviewed the earthworks regarding the Northland Regional Council Regional Plan, specifically Rule C.8.3.1, summarised in Table 10 below.

Table 10: NRC Regional Plan – Rule C.8.3.1

Rule	Requirement	Applicability/Commentary
C.8.3.1		
1)	The area and volume of earthworks at a particular location or associated with a project complies with the thresholds in Table 15: Permitted activity earthworks thresholds.	
	<ul style="list-style-type: none"> Within 10m of a natural wetland, the bed of a continually or intermittently flowing river or lake 	Stage 1 (west of SH12) – <50m ³ Stage 1 (east of SH12) – <50m ³ Stage 2 – <50m ³ Stage 3 – <50m ³
	<ul style="list-style-type: none"> Within 10m of an inanga spawning site 	Not applicable.
	<ul style="list-style-type: none"> Catchment of an Outstanding Lake 	Not applicable.
	<ul style="list-style-type: none"> Erosion-prone Land 	Not applicable.
	<ul style="list-style-type: none"> High-risk flood hazard area (10%AEP) 	Stage 1 (west of SH12) – <50m ³ Stage 1 (east of SH12) – <50m ³ Stage 2 – <50m ³ Stage 3 – <50m ³
	<ul style="list-style-type: none"> Coastal riparian and foredune management area 	Not applicable.
	<ul style="list-style-type: none"> Flood hazard area (1%AEP) 	Stage 1 (west of SH12) – <100m ³ Stage 1 (east of SH12) – <100m ³ Stage 2 – <100m ³ Stage 3 – <100m ³
	<ul style="list-style-type: none"> Other areas 	Stage 1 (west of SH12) – 350m ² Stage 1 (east of SH12) – 2340m ² Stage 2 – 1670m ² Stage 3 – 620m ²
2)	The discharge is not within 20 metres of a geothermal surface feature.	Not applicable.
3)	Except for coastal dune restoration activities, good management practice erosion and sediment control measures equivalent to those set out in the Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region 2016 (Auckland Council Guideline Document GD2016/005), are implemented for the duration of the activity.	Erosion and sediment control measures are proposed during earthworks. Proposed measures are shown on Sheets 18-20 of Appendix A.
4)	Batters and side castings are stabilised to prevent slumping.	Batters are proposed at grades of less than 1:3, and will be revegetated as soon as practical.

5)	Exposed earth is stabilised upon completion of the earthworks to minimise erosion and avoid slope failure.	As earthworks are completed, surfaces will be stabilised using metal or mulched and grassed.
6)	Earth and debris are not deposited into, or in a position where they can enter, a natural wetland, a continually or intermittently flowing river, a lake, an artificial watercourse, or the coastal marine area.	Sediment erosion control measures are proposed to mitigate any such potential soils migrating to the wetlands or water bodies.
7)	<p>The earthworks activity does not:</p> <p>a) reduce the height of a dune crest in a coastal riparian and foredune management area, except where dunes are recontoured to remove introduced materials or to remediate dune blow-outs as part of coastal dune restoration work, or</p> <p>b) exacerbate flood or coastal hazard risk on any other property, or</p> <p>c) create or contribute to the instability or subsidence of land on other property, or</p> <p>d) divert flood flow onto other property.</p>	<p>a) Not applicable.</p> <p>b) Although the proposed culverts may affect the flood flows, the location of the proposed culverts are such a distance from the upstream boundaries, that there are no effects to neighbouring properties.</p> <p>c) the earthworks are of a relatively small scale, and general setback from the property boundary. RS Eng has reviewed the geotechnical stability of the property and implemented any such recommendations to mitigate any potential effects. No effects are expected to neighbouring properties.</p> <p>d) The earthworks do not result in the diversion of flood flow onto neighbouring properties.</p>
8)	<p>Any associated damming, diversion and discharge of stormwater does not give rise to any of the following effects in the receiving waters beyond the zone of reasonable mixing:</p> <p>a) any conspicuous change in colour or visual clarity, or</p> <p>b) the rendering of freshwater unsuitable for consumption by farm animals, or</p> <p>c) contamination which may render freshwater taken from a mapped priority drinking water abstraction point (refer I Maps Ngā mahere matawhenua) unsuitable for human consumption after existing treatment, and</p>	No damming or diversion of stormwater is proposed. Effects from the development are expected to be less than minor.
9)	Information on the source and composition of any clean fill material and its location within the	The earthworks proposed are described in the drawings attached in Appendix A.

	disposal site are recorded and provided to the Regional Council on request	
10)	the Regional Council's Compliance Manager is given at least five working days' notice (in writing or by email) of any earthworks activity being undertaken within a high-risk flood hazard area, flood hazard area, where contaminated land will be exposed, or in sand dunes within a coastal riparian and foredune management area.	Not applicable.

8.0 Access

A specific transport assessment is being prepared by Engineering Outcomes. The following provides a summary of the proposed accessways and intersections. The drawings attached in Appendix A provide further details.

Stage 1 (west of SH12);

- NZTA Diagram C Intersection.
- 4.5m wide single carriageway.

Stage 1 (east of SH12);

- NZTA Diagram D intersection.
- 6.0m wide dual carriageway.
- 9.5m Radius cul-de-sac.

Stage 2;

- 4.5m wide single carriageway.

Stage 3;

- NZTA Diagram C intersection.
- 4.5m wide single carriageway.

9.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to determine the engineering suitability of the proposed development, in relation to the material covered by the report. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed. If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, RS Eng should be contacted immediately.

Prepared by:

Reviewed by:

Codie Hay

Technician

NZDE(Civil)

David Platt

Geotechnical Team Leader

NZDE(Civil), MEngNZ

Approved by:



Matthew Jacobson

Director

NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

RS Eng Ltd

Appendix A

Drawings



DETAILS		
JOB NO.	18837	
DATE	24/03/2025	
REVISION	C	Add FFWS

SHEET INDEX			
NO.	SHEET NAME	REV	DATE
C01	OVERALL PLAN	C	24/03/2025
C02	TYPICAL CROSS SECTIONS	C	24/03/2025
C03	AREA 4 - LAYOUT PLAN	C	24/03/2025
C04	AREA 4 - CUT/FILL PLAN	C	24/03/2025
C05	AREA 4, ROAD 1 - LONGITUDINAL SECTION	C	24/03/2025
C06	AREA 4, ROAD 2 - LONGITUDINAL SECTION	C	24/03/2025
C07	CULVERT LONGITUDINAL SECTION	C	24/03/2025
C08	AREA 2 - LAYOUT PLAN	C	24/03/2025
C09	AREA 2 - CUT/FILL PLAN	C	24/03/2025
C10	AREA 2 - INTERSECTION LAYOUT	C	24/03/2025
C11	AREA 2, ROAD 1 - LONGITUDINAL SECTION	C	24/03/2025
C12	AREA 2, ROAD 1 - LONGITUDINAL SECTION	C	24/03/2025
C13	CULVERT LONGITUDINAL SECTION	C	24/03/2025
C14	AREA 4 - WASTEWATER LAYOUT	C	24/03/2025
C15	AREA 2 - WASTEWATER LAYOUT	C	24/03/2025
C16	AREA 4 - SWALE / OVERLAND FLOW PATH	C	24/03/2025
C17	AREA 2 - SWALE / OVERLAND FLOW PATH	C	24/03/2025
C18	AREA 4 - SEDIMENT AND EROSION CONTROL	C	24/03/2025
C19	AREA 2 - SEDIMENT AND EROSION CONTROL	C	24/03/2025
C20	SEDIMENT AND EROSION CONTROL DETAILS	C	24/03/2025
C21	DIAGRAM C INTERSECTION - TYPICAL LAYOUT	C	24/03/2025
C22	DIAGRAM D INTERSECTION - TYPICAL LAYOUT	C	24/03/2025

PROPOSED PAKAINGA DEVELOPMENT

CIVIL DESIGN

WAIMA TOPU B TRUST

STATE HIGHWAY 12, WAIMA, HOKIANGA

RS Eng Ltd

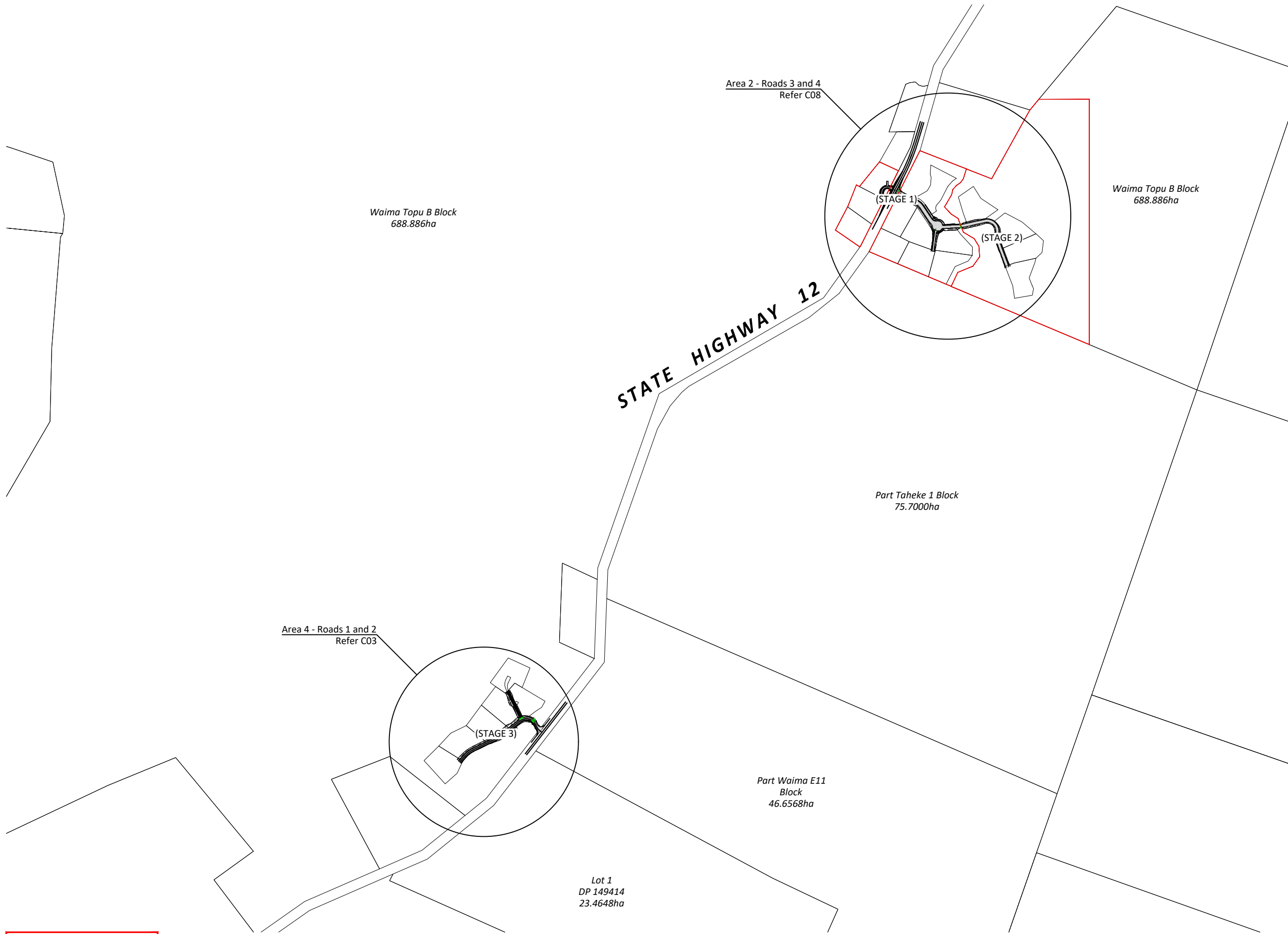
09 438 3273

office@RSEng.co.nz

2 Seaview Road,

Whangarei 0110



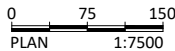



- NOTES:**
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 - All works to comply with all relevant local authority by-laws and council regulations where applicable.
 - Contractors to confirm all dimensions on site prior to commencing any work.
 - Do not scale off drawings.
 - These drawings are to be read in conjunction with specifications - plans take precedence.



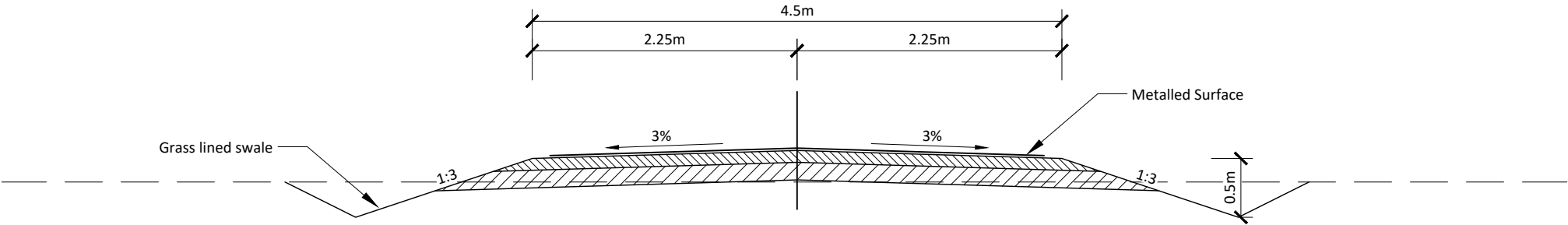
WORK IN PROGRESS

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



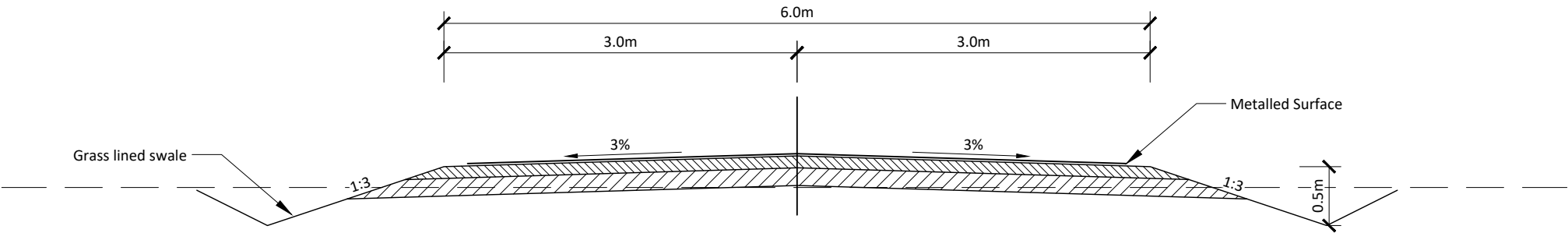
	RS Eng Ltd 09 438 3273 office@REng.co.nz 2 Seaview Road, Whangarei 0110		<p>These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission.</p> <p>If any part of these documents are unclear, please contact RS Eng Ltd.</p>	<p>PROPOSED PAKAINGA DEVELOPMENT</p> <p>PRELIMINARY CIVIL DRAWINGS</p> <p>OVERALL PLAN</p>		Client						Scale		Rev No.	
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	Location								Original		Sheet No.				
	STATE HIGHWAY 12, WAIMA HOKIANGA								A3		C01				
	Date					Rev			Notes			Job No.			
Drawn by: NW			Reviewed by: MJ			Approved by: MJ			18837						

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4.5m WIDE ROAD - TYPICAL SECTION DETAIL

1:50



6.0m WIDE ROAD - TYPICAL SECTION DETAIL

1:50


LEGEND

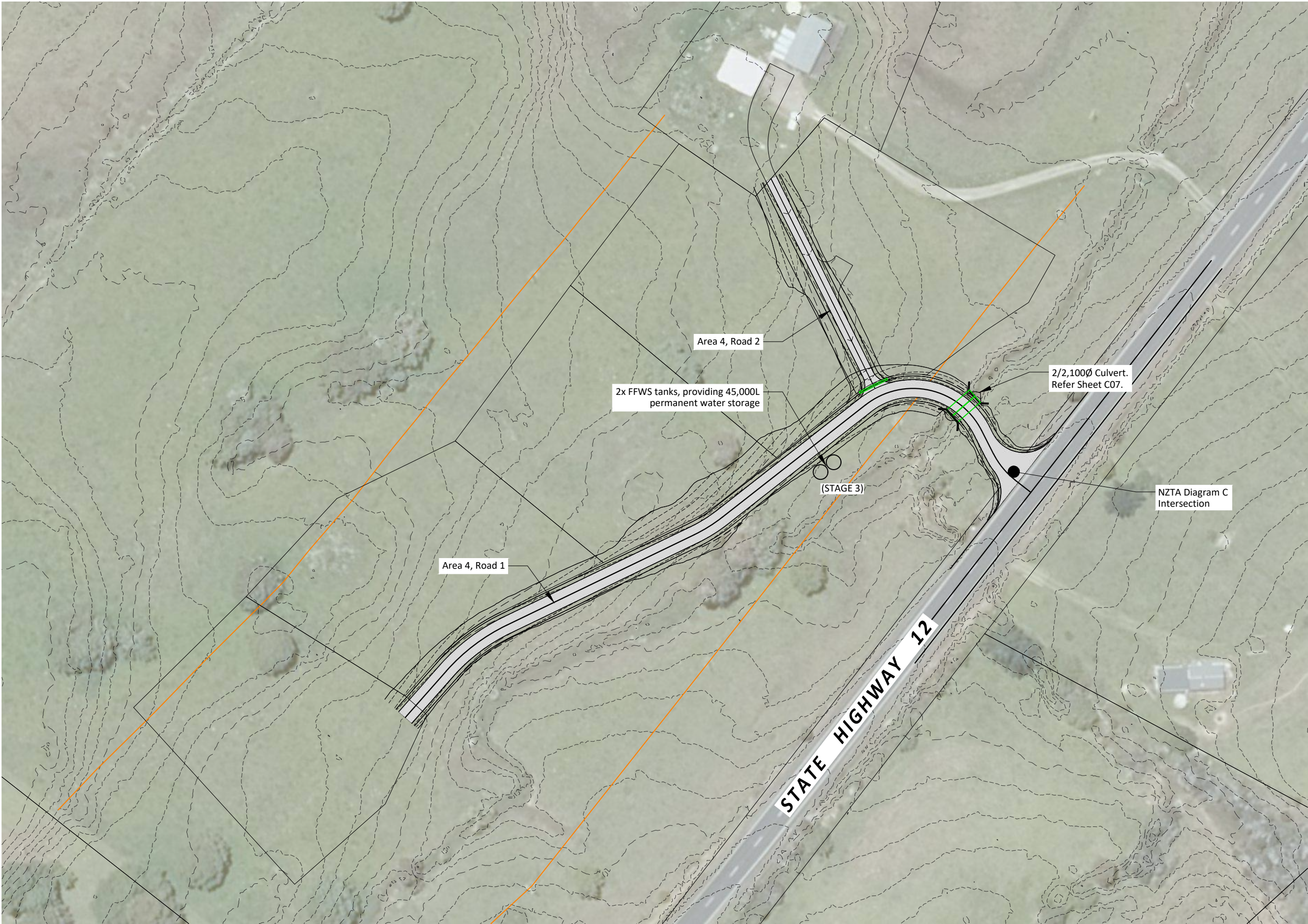
- Proposed Surface
- - - Existing Surface

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 0.5 1.0
SECTION 1:50

WORK IN PROGRESS

	RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110	These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission. If any part of these documents are unclear, please contact RS Eng Ltd.	PROPOSED PAKAINGA DEVELOPMENT PRELIMINARY CIVIL DRAWINGS TYPICAL CROSS SECTIONS	Client				Scale	1:50	Rev No.	C
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				Location	31/01/2025	B	Layout Amendment				
				STATE HIGHWAY 12, WAIMA	06/12/2024	A	For Consent	Job No.	18837		
				HOKIANGA	Date	Rev	Notes				
				Drawn by: NW			Reviewed by: MJ	Approved by: MJ			



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LEGEND


- Vehicular Crossings
- existing overhead powerlines
- pr SW Culverts

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

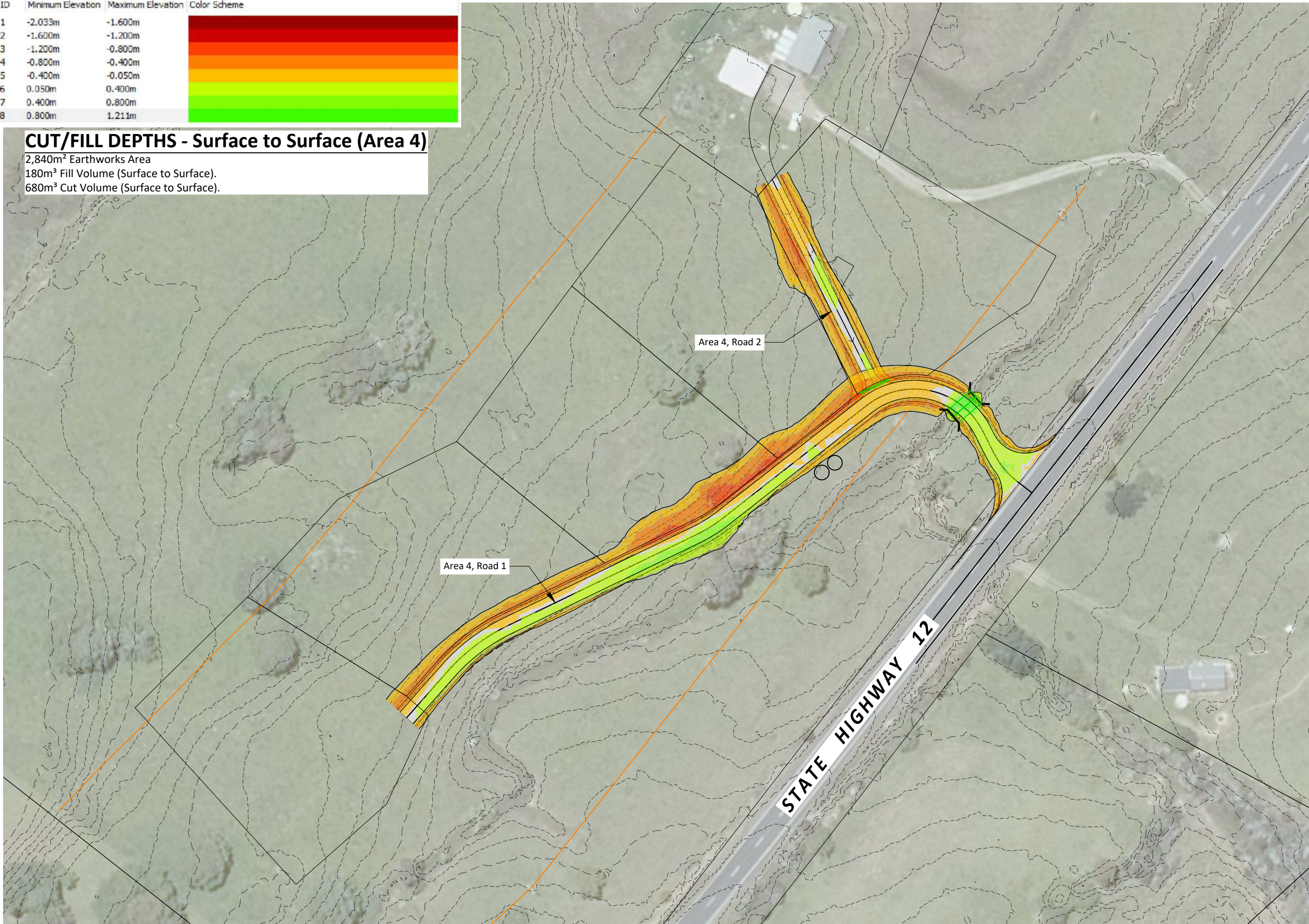
AREA 4 - LAYOUT PLAN
1:1,000

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>	<div>These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission.</div> <div>If any part of these documents are unclear, please contact RS Eng Ltd.</div>	<div>PROPOSED PAKAKAINGA DEVELOPMENT</div> <div>PRELIMINARY CIVIL DRAWINGS</div> <div>AREA 4 - LAYOUT PLAN</div>	<div>Client</div> <div>WAIMA TOPU B TRUST</div>				Scale	1:1,000	Rev No.	C
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				31/01/2025	B	Layout Amendment				
				06/12/2024	A	For Consent				
			Date	Rev	Notes	Job No.	18837			
			Drawn by: NW			Reviewed by: MJ		Approved by: MJ		

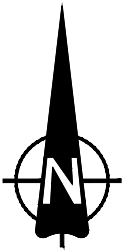
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5	-0.400m	-0.050m	
6	0.050m	0.400m	
7	0.400m	0.800m	
8	0.800m	1.211m	

CUT/FILL DEPTHS - Surface to Surface (Area 4)

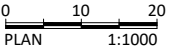
2,840m² Earthworks Area
180m³ Fill Volume (Surface to Surface).
680m³ Cut Volume (Surface to Surface).



- NOTES:
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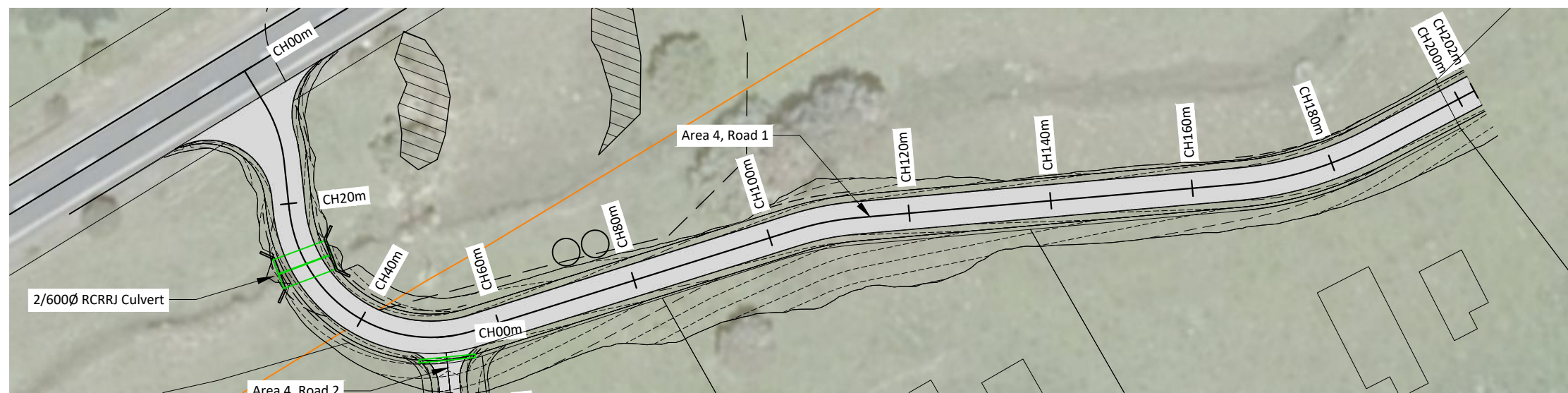
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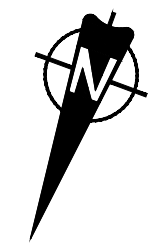
WORK IN PROGRESS

AREA 4 - CUT/FILL PLAN
1:1,000

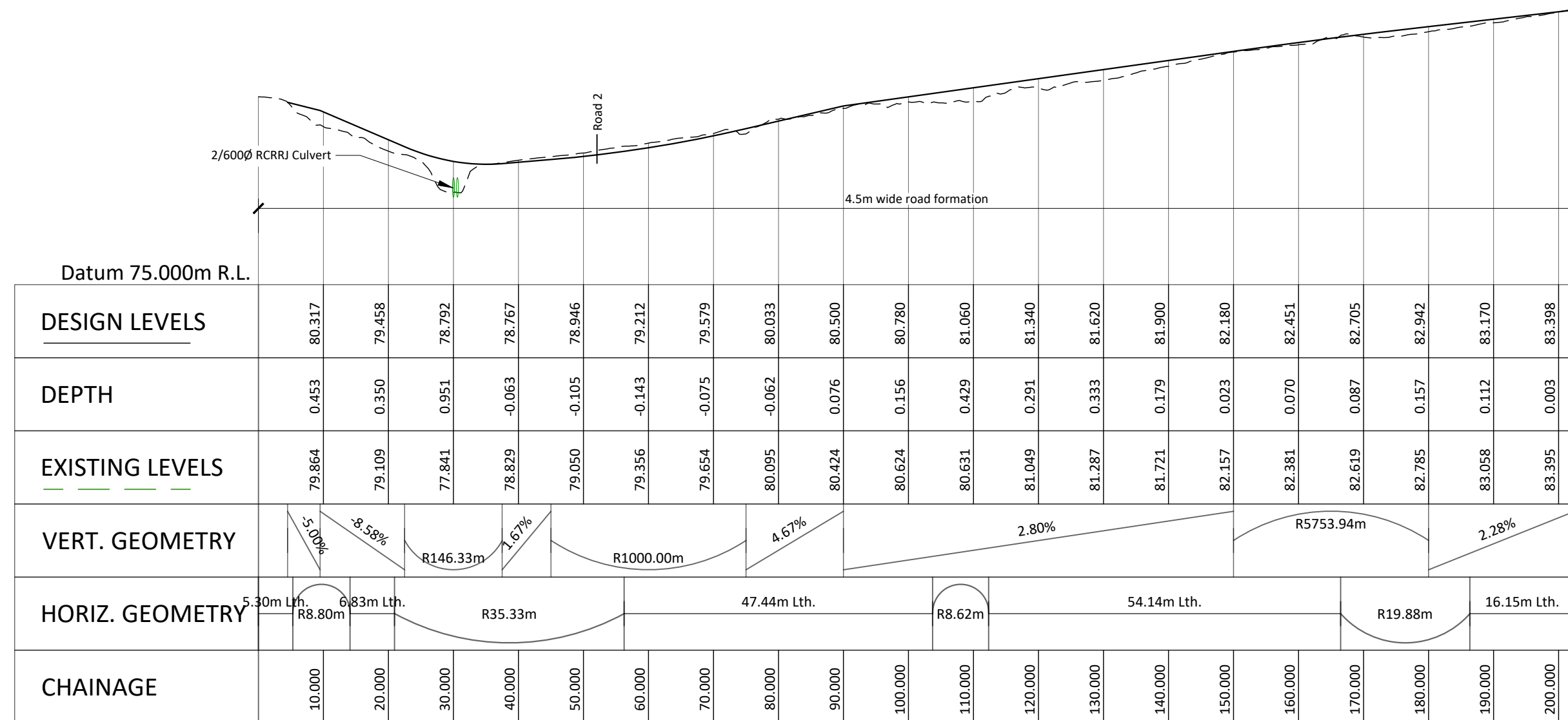
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			STATE HIGHWAY 12, WAIMA						A3	C04
			HOKIANGA							
			Date	Rev	Notes					
Drawn by: NW			Reviewed by: MJ			Approved by: MJ			Job No.	
						18837				



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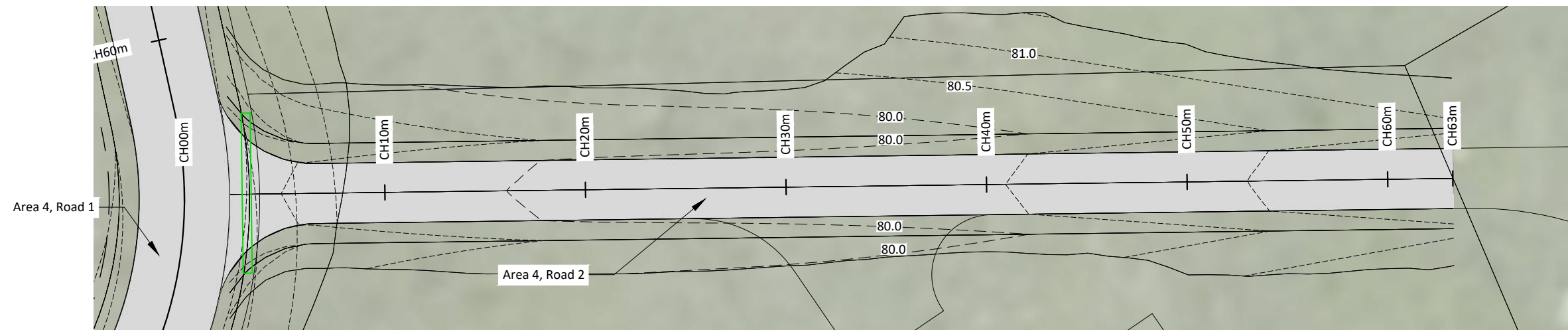
AREA 4, ROAD 1 - LAYOUT PLAN



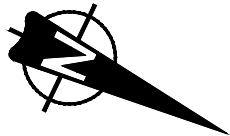
AREA 4, ROAD 1 - LONGITUDINAL SECTION

WORK IN PROGRESS

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			Drawn by: NW	Reviewed by: MJ	Approved by: MJ							

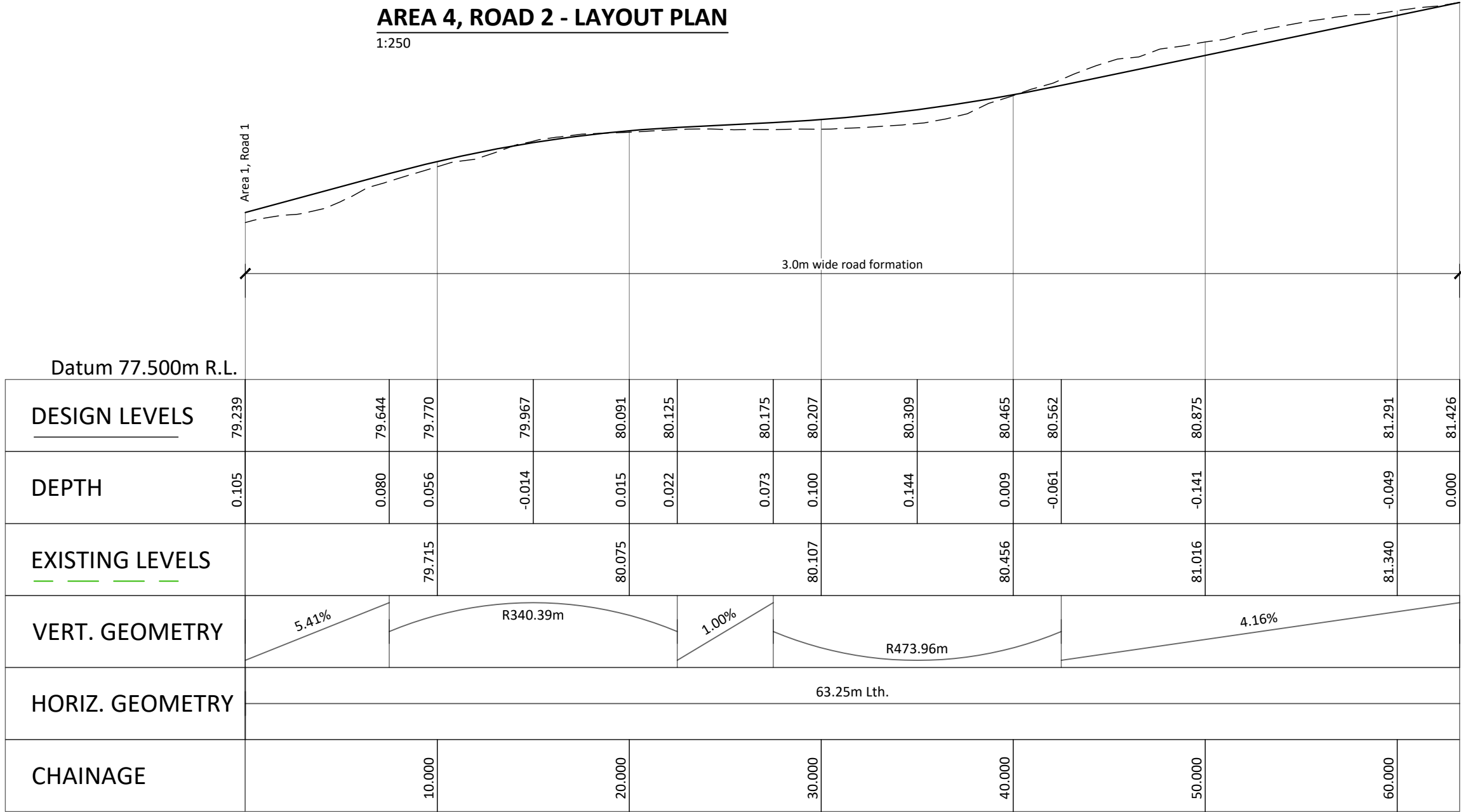


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AREA 4, ROAD 2 - LAYOUT PLAN

1:250



AREA 4, ROAD 2 - LONGITUDINAL SECTION

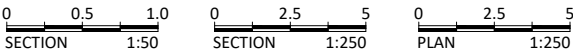
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LEGEND

— Proposed Surface
- - - Existing Surface

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

WORK IN PROGRESS



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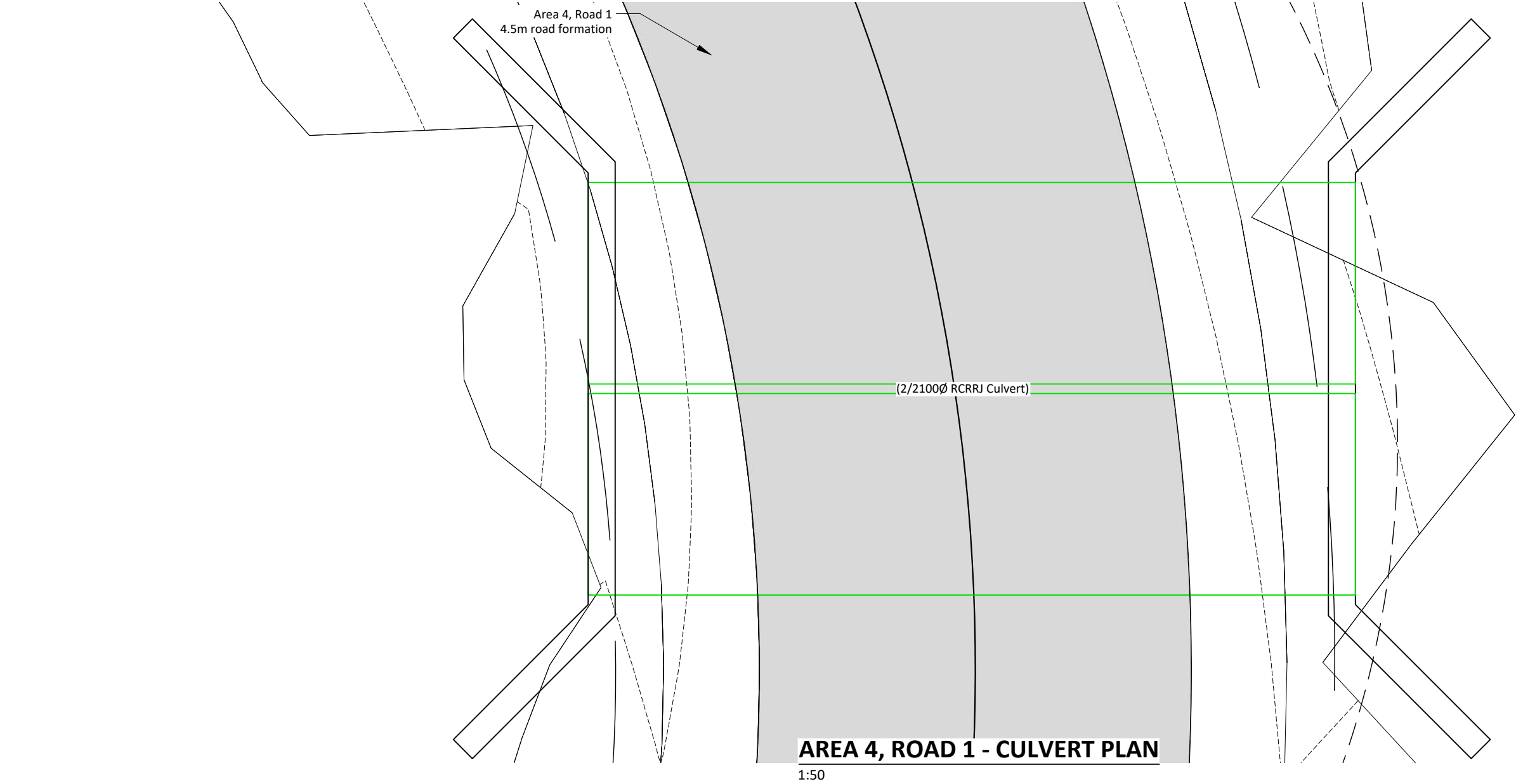
PROPOSED PAPAKAINGA DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS
AREA 4, ROAD 2 - LONGITUDINAL SECTION

Client
WAIMA TOPU B TRUST

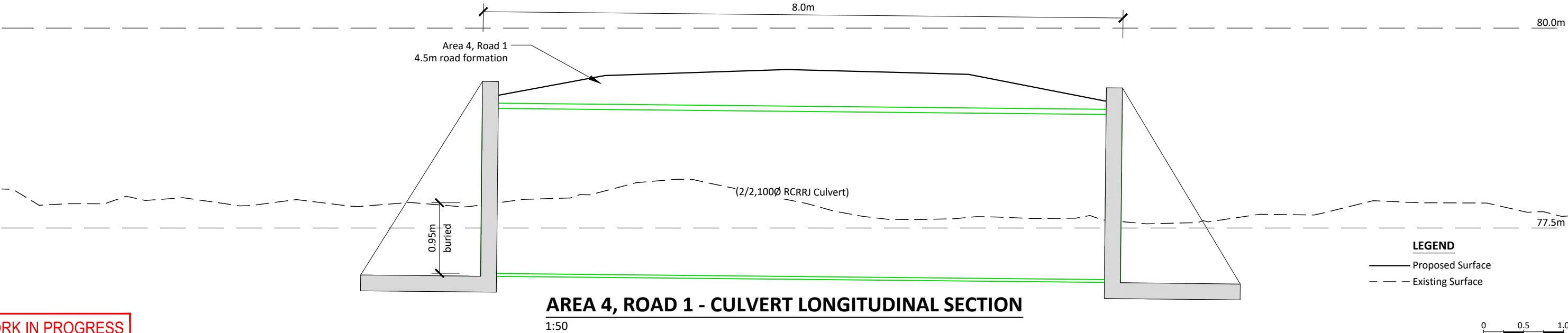
Location
**STATE HIGHWAY 12, WAIMA
HOKIANGA**

24/03/2025	C	Add FFWS
31/01/2025	B	Layout Amendment
06/12/2024	A	For Consent
Date	Rev	Notes
Drawn by: NW	Reviewed by: MJ	Approved by: MJ


Scale As Shown	Rev No. C
Original A3	Sheet No. C06
Job No. 18837	

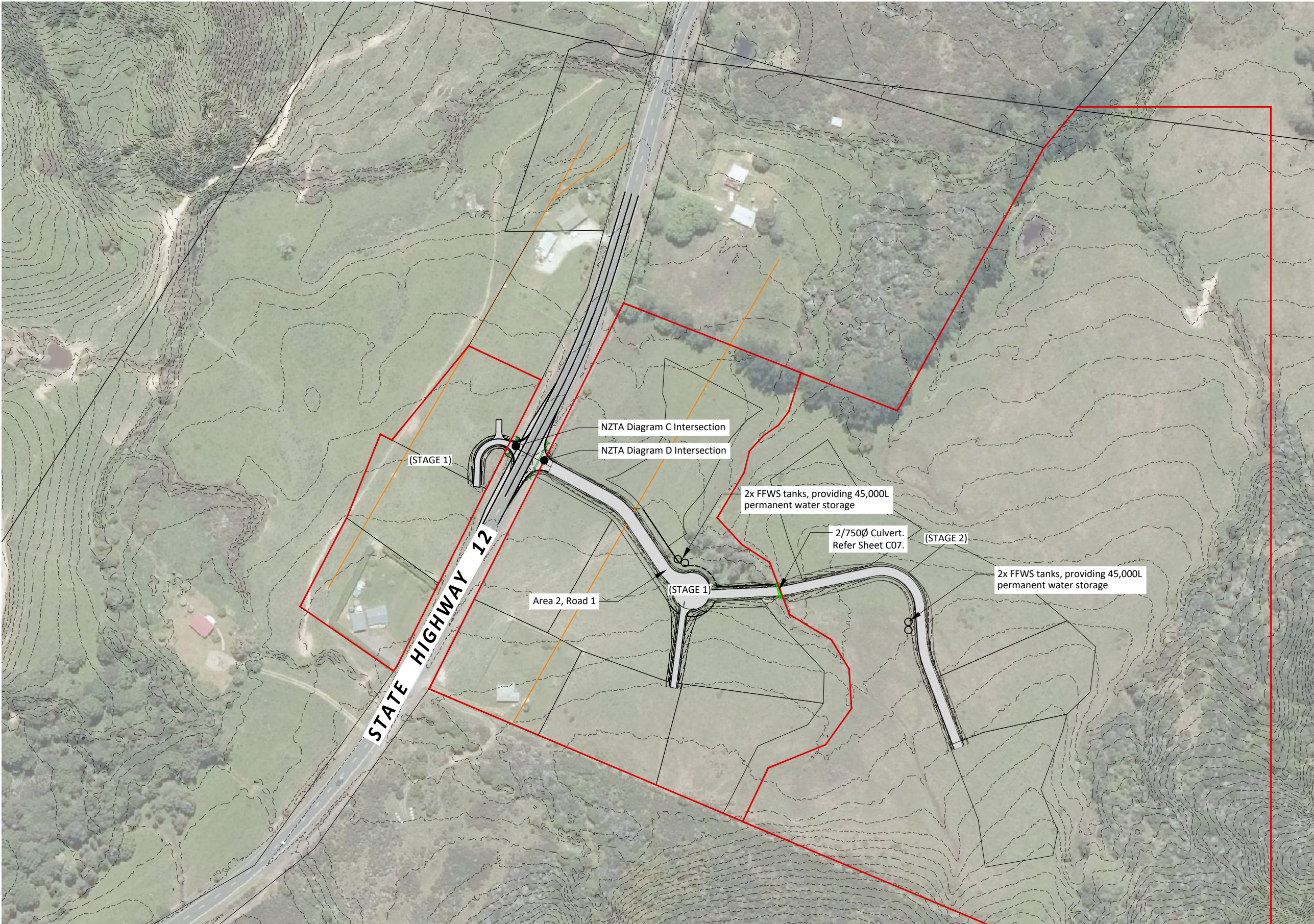


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									06/12/2024 A For Consent			A3		
									Date Rev Notes			Job No.		
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												C07		
												Sheet No.		

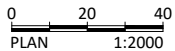


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- LEGEND**
- ▬ Vehicular Crossings
 - existing overhead powerlines
 - pr SW Culverts
 - pr Stage Boundaries

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



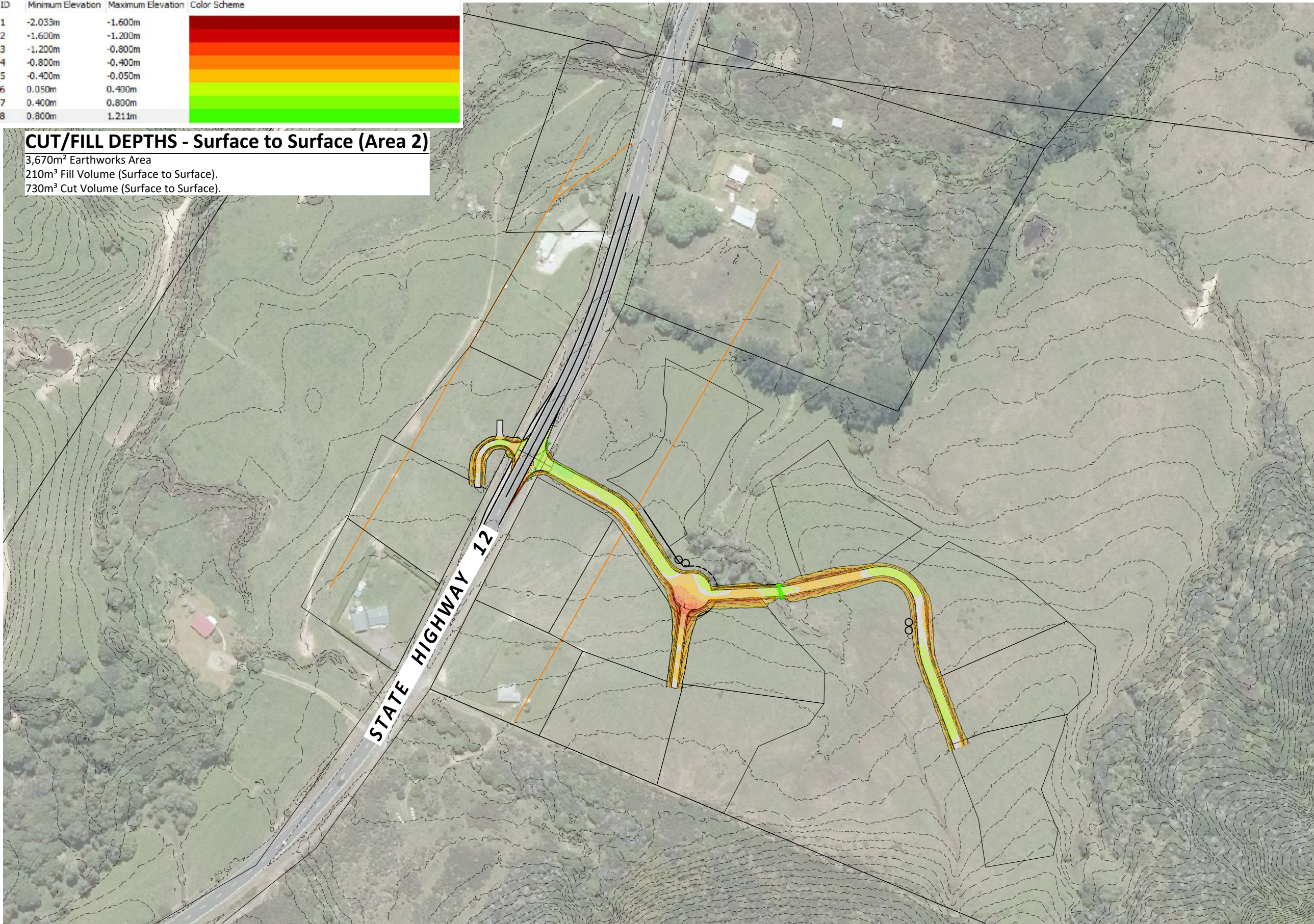
WORK IN PROGRESS

	RS Eng Ltd 09 438 3273 office@REng.co.nz 2 Seaview Road, Whangarei 0110	These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission. If any part of these documents are unclear, please contact RS Eng Ltd.	PROPOSED PAKAKINGA DEVELOPMENT PRELIMINARY CIVIL DRAWINGS AREA 2 - LAYOUT PLAN	Client				Scale	Rev No.
				WAIMA TOPU B TRUST			1:2,000	C	
				Location				Original	Sheet No.
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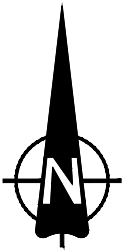
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4	-0.800m	-0.400m	
5	-0.400m	-0.050m	
6	0.050m	0.400m	
7	0.400m	0.800m	
8	0.800m	1.211m	

CUT/FILL DEPTHS - Surface to Surface (Area 2)

3,670m² Earthworks Area
210m³ Fill Volume (Surface to Surface).
730m³ Cut Volume (Surface to Surface).



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LEGEND


- Vehicular Crossings
- existing overhead powerlines
- pr SW Culverts

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

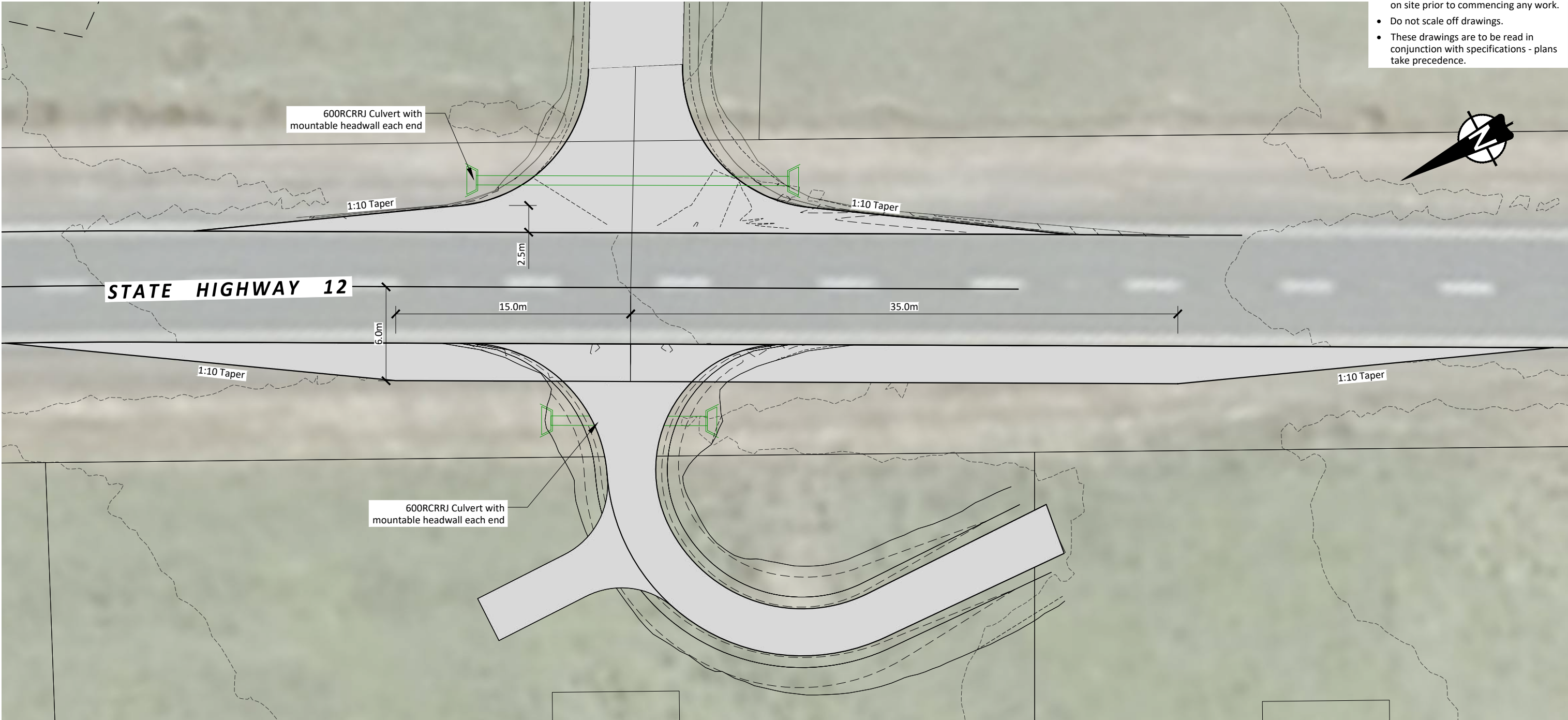
0 20 40
PLAN 1:2000

WORK IN PROGRESS

AREA 2 - CUT/FILL PLAN
1:2,000

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				Location STATE HIGHWAY 12, WAIMA HOKIANGA		24/03/2025 C Add FFWS		Original A3		Job No. 18837 C09	
				06/12/2024 A For Consent		31/01/2025 B Layout Amendment					
				Date		Rev		Notes			
				Drawn by: NW		Reviewed by: MJ		Approved by: MJ			


- NOTES:
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WORK IN PROGRESS

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 2.5 5
PLAN 1:250

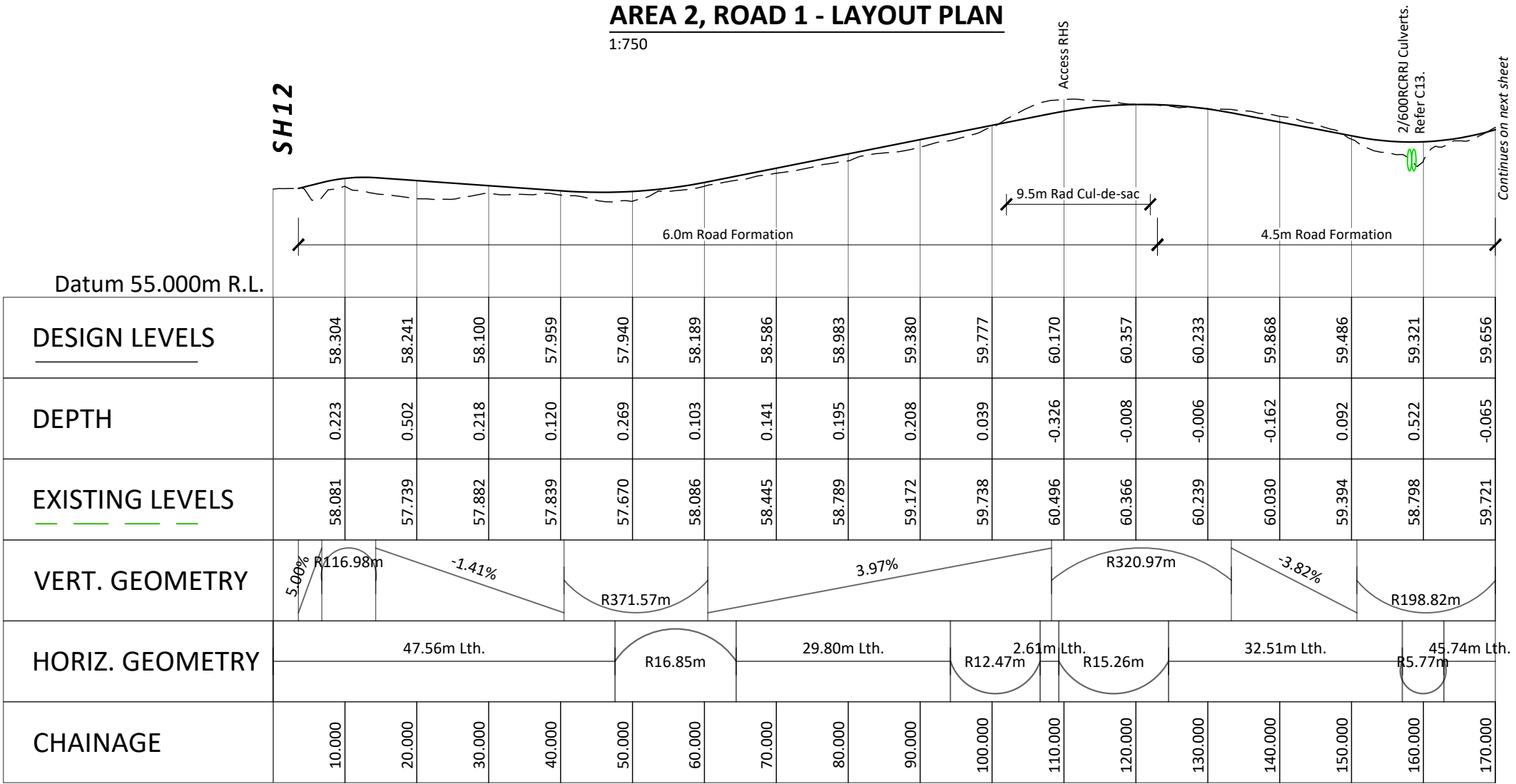
 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>	These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission. If any part of these documents are unclear, please contact RS Eng Ltd.	PROPOSED PAKAINGA DEVELOPMENT PRELIMINARY CIVIL DRAWINGS AREA 2 - INTERSECTION LAYOUT	Client WAIMA TOPU B TRUST						Scale 1:250	Rev No. C
			Location STATE HIGHWAY 12, WAIMA HOKIANGA						Original A3	
						24/03/2025 C Add FFWS				
						31/01/2025 B Layout Amendment				
						06/12/2024 A For Consent				
						Date	Rev	Notes	Job No. 18837	
			Drawn by: NW		Reviewed by: MJ	Approved by: MJ				



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AREA 2, ROAD 1 - LAYOUT PLAN

1:750

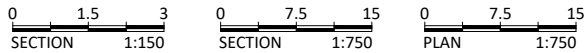


AREA 2, ROAD 1 - LONGITUDINAL SECTION - CH0-170m

1:750H, 1:150V

- LEGEND**
- Proposed Surface
 - - - Existing Surface

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



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PROPOSED PAKAINGA DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS
AREA 2, ROAD 1 - LONGITUDINAL SECTION

Client
WAIMA TOPU B TRUST

Location
**STATE HIGHWAY 12, WAIMA
HOKIANGA**

24/03/2025	C	Add FFWS
31/01/2025	B	Layout Amendment
06/12/2024	A	For Consent
Date	Rev	Notes
Drawn by: NW	Reviewed by: MJ	Approved by: MJ

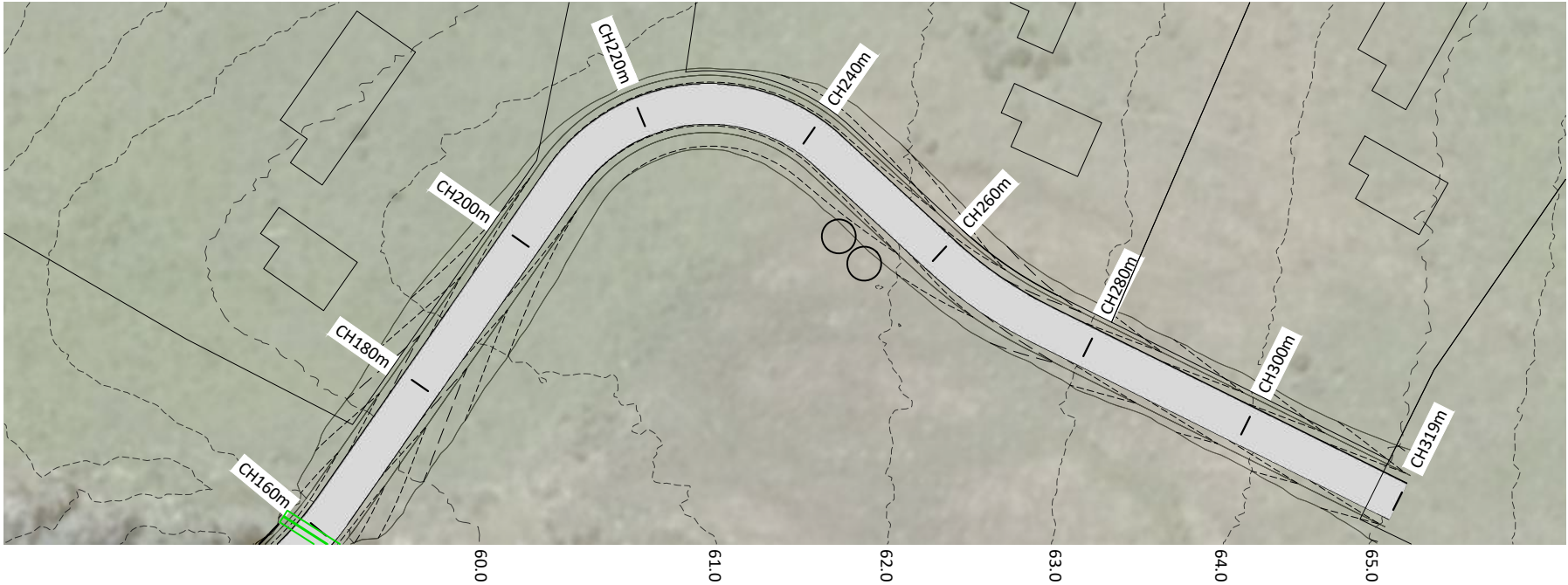
Scale
As Shown

Original
A3

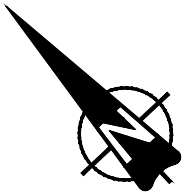
Job No.
18837

Rev No.
C

Sheet No.
C11

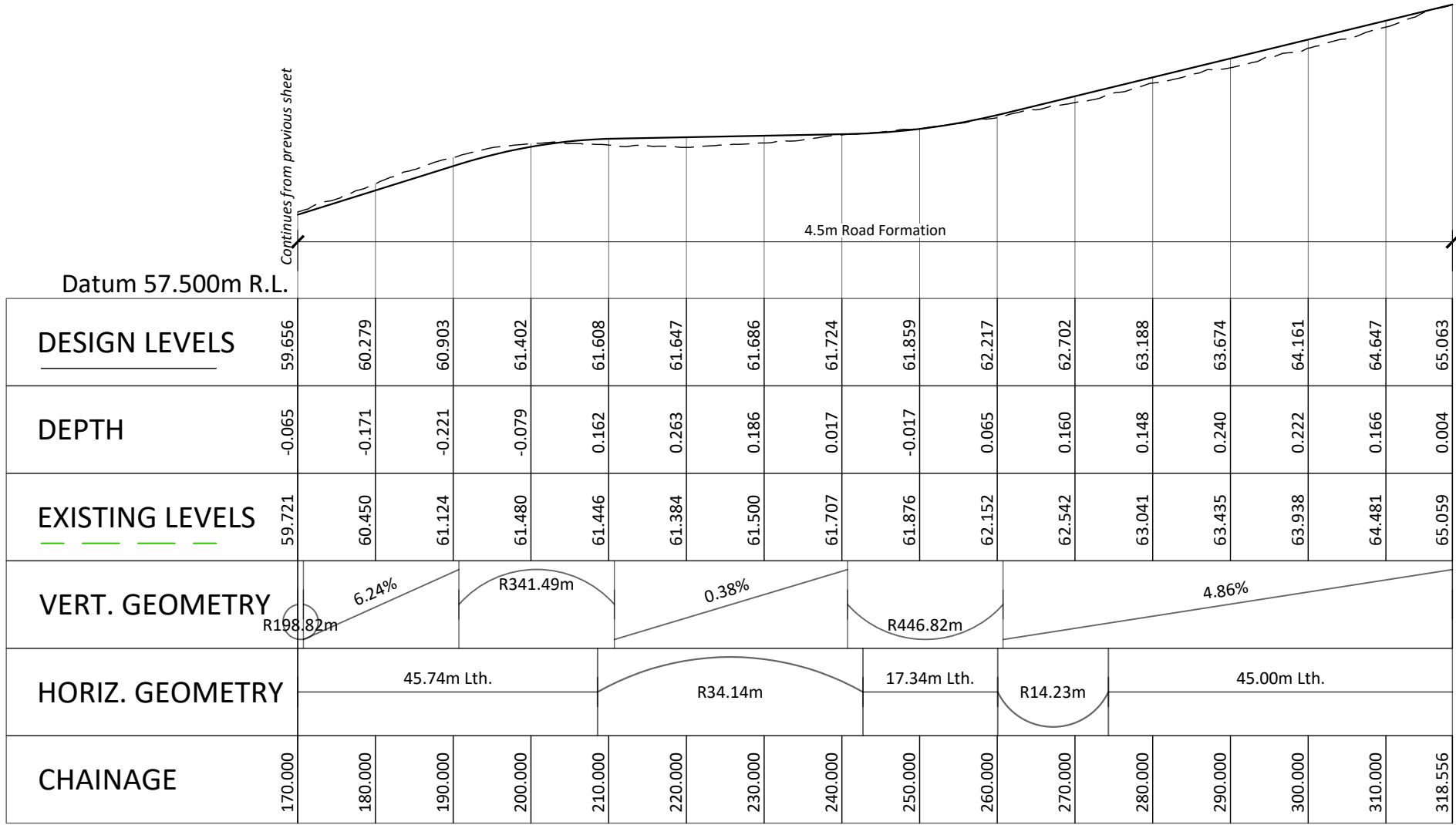


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AREA 2, ROAD 1 - LAYOUT PLAN

1:750

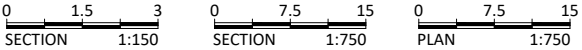


AREA 2, ROAD 1 - LONGITUDINAL SECTION - CH170-318.556m


1:750H, 1:150V

- LEGEND**
- Proposed Surface
 - - - Existing Surface

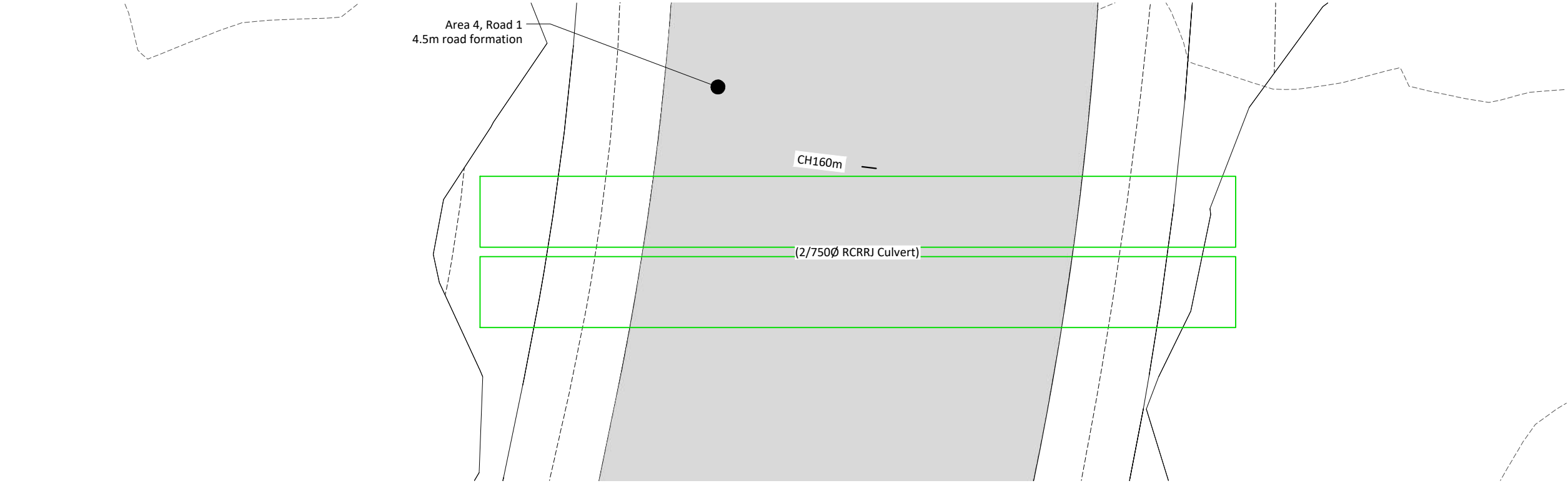
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Survey Data Source: LiDAR (2018)



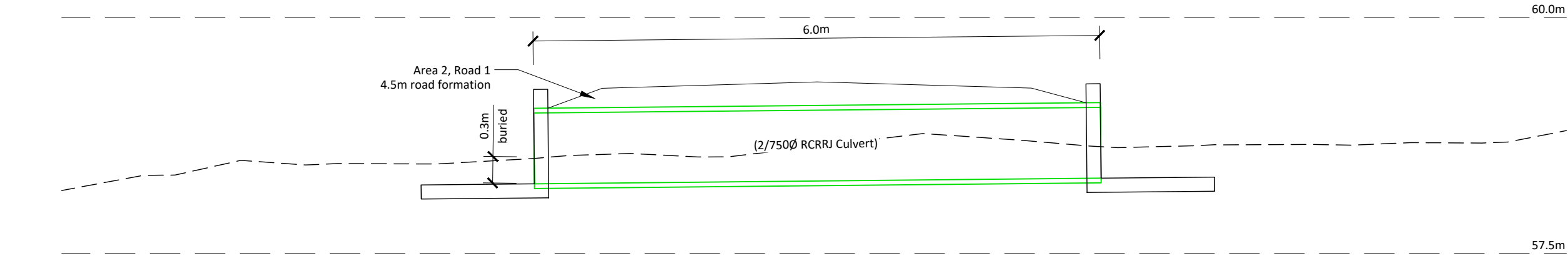
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				Location STATE HIGHWAY 12, WAIMA HOKIANGA				24/03/2025	C	Add FFWS	Original A3
								31/01/2025	B	Layout Amendment	
								06/12/2024	A	For Consent	
								Date	Rev	Notes	Job No. 18837
								Drawn by: NW		Reviewed by: MJ	Approved by: MJ

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AREA 2, ROAD 1 - CULVERT LONGITUDINAL SECTION
1:50




AREA 2, ROAD 1 - CULVERT LONGITUDINAL SECTION
1:50

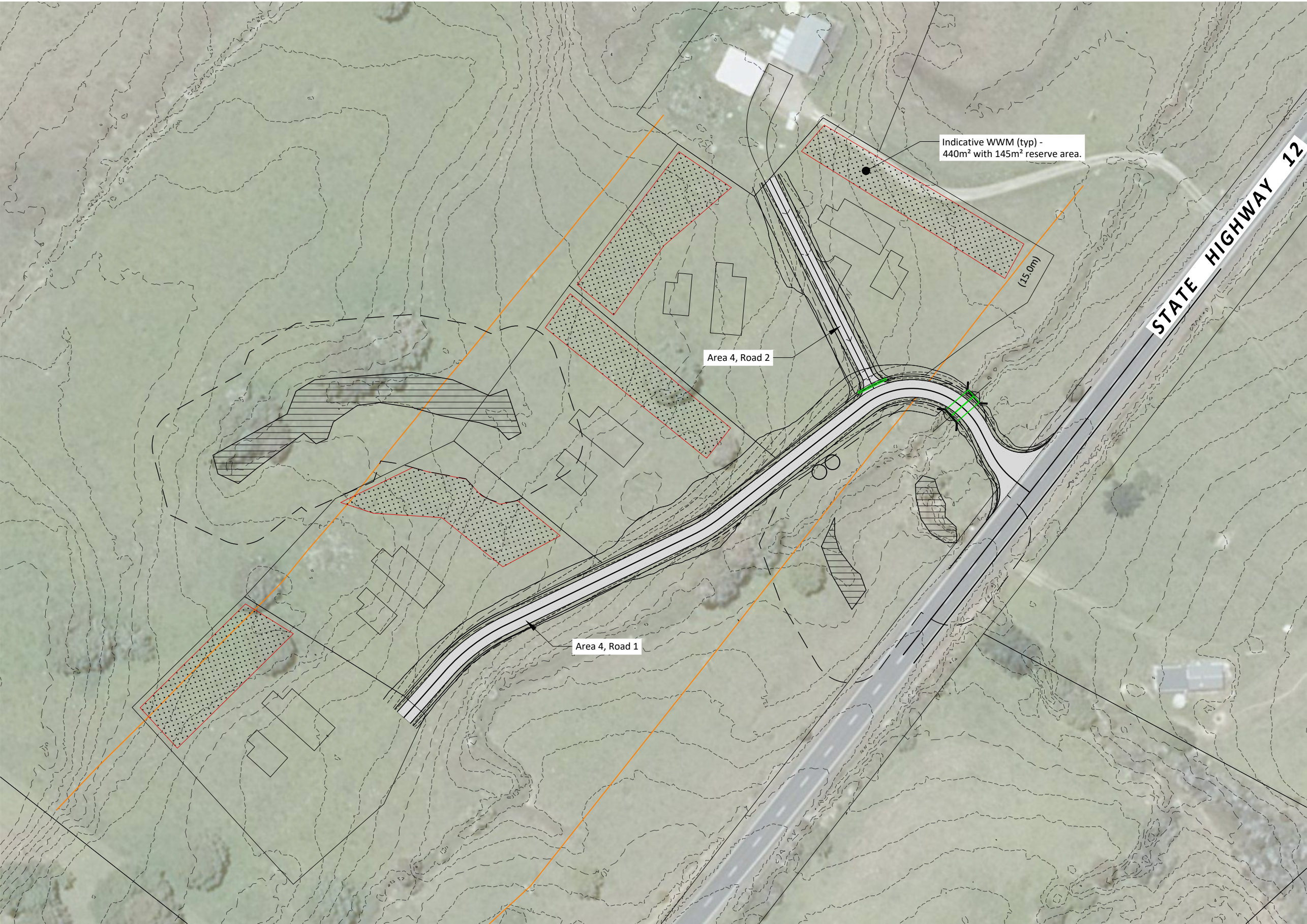
LEGEND

— Proposed Surface
- - - Existing Surface

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

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				WAIMA TOPU B TRUST						1:50	C
				Location						Original	Sheet No.
				STATE HIGHWAY 12, WAIMA HOKIANGA						A3	C13
				Date	Rev	Notes	Job No.				
				Drawn by: NW			Reviewed by: MJ			Approved by: MJ	

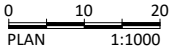


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- LEGEND**
- Wetland 15m setback
 - ex Wetland
 - Vehicular Crossings
 - WW Disposal + Reserve Areas
 - existing overhead powerlines
 - pr SW Culverts
 - (15.0m) minimum setback distances

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



WORK IN PROGRESS

AREA 4 - LAYOUT PLAN
1:1,000

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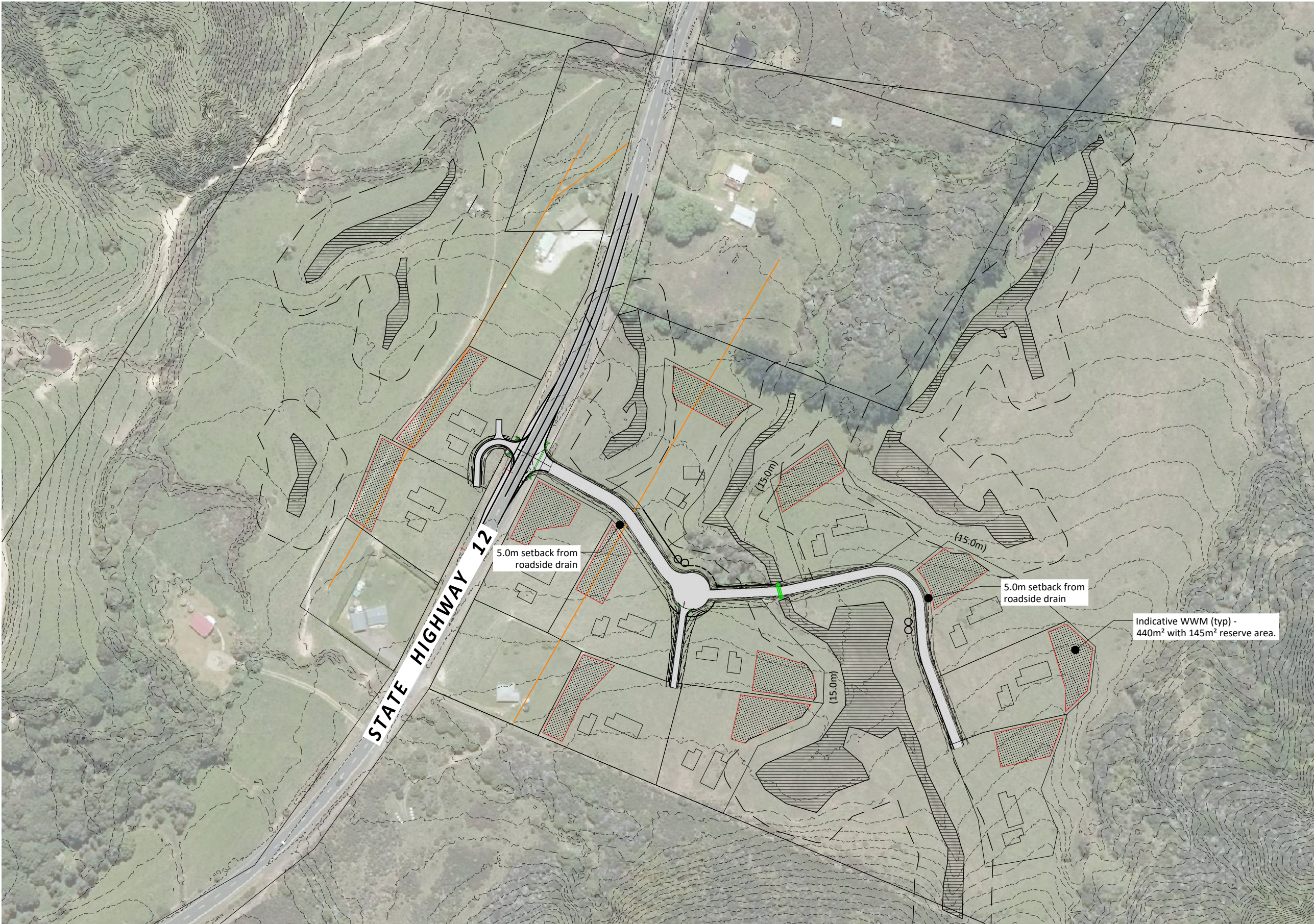
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PROPOSED PAKAINGA DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS
AREA 4 - WWM LAYOUT PLAN

Client
WAIMA TOPU B TRUST
Location
**STATE HIGHWAY 12, WAIMA
HOKIANGA**

24/03/2025	C	Add FFWS
31/01/2025	B	Layout Amendment
06/12/2024	A	For Consent
Date	Rev	Notes
Drawn by: NW	Reviewed by: MJ	Approved by: MJ

Scale	1:1,000	Rev No.	C
Original	A3	Sheet No.	C14
Job No.	18837		



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 - Do not scale off drawings.
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LEGEND


- Wetland 15m setback
- ex Wetland
- Vehicular Crossings
- WW Disposal + Reserve Areas
- existing overhead powerlines
- pr SW Culverts

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 20 40
PLAN 1:2000

WORK IN PROGRESS

AREA 2 - LAYOUT PLAN
1:2,000

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							WAIMA TOPU B TRUST				1:2,000		C	
							Location				Original		Sheet No.	
							STATE HIGHWAY 12, WAIMA				A3		C15	
							HOKIANGA							
						Date		Rev		Notes		Job No.		
												18837		
								Drawn by: NW		Reviewed by: MJ		Approved by: MJ		



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- LEGEND**
- Wetland 15m setback
 - ex Wetland
 - Vehicular Crossings
 - Overland Flow Path Direction
 - Grass Lined Swale
 - pr SW Culverts

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

AREA 4 - LAYOUT PLAN
1:1,000

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**PROPOSED PAKAINGA DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS
AREA 4 - SWALES / OVERLAND FLOW PATHS**

Client
WAIMA TOPU B TRUST
Location
**STATE HIGHWAY 12, WAIMA
HOKIANGA**

24/03/2025	C	Add FFWS
31/01/2025	B	Layout Amendment
06/12/2024	A	For Consent
Date	Rev	Notes
Drawn by: NW	Reviewed by: MJ	Approved by: MJ

Scale	1:1,000	Rev No.	C
Original	A3	Sheet No.	C16
Job No.	18837		

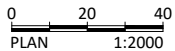


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- LEGEND**
- Wetland 15m setback
 - ex Wetland
 - Vehicular Crossings
 - Overland Flow Path Direction
 - Grass Lined Swale
 - pr SW Culverts

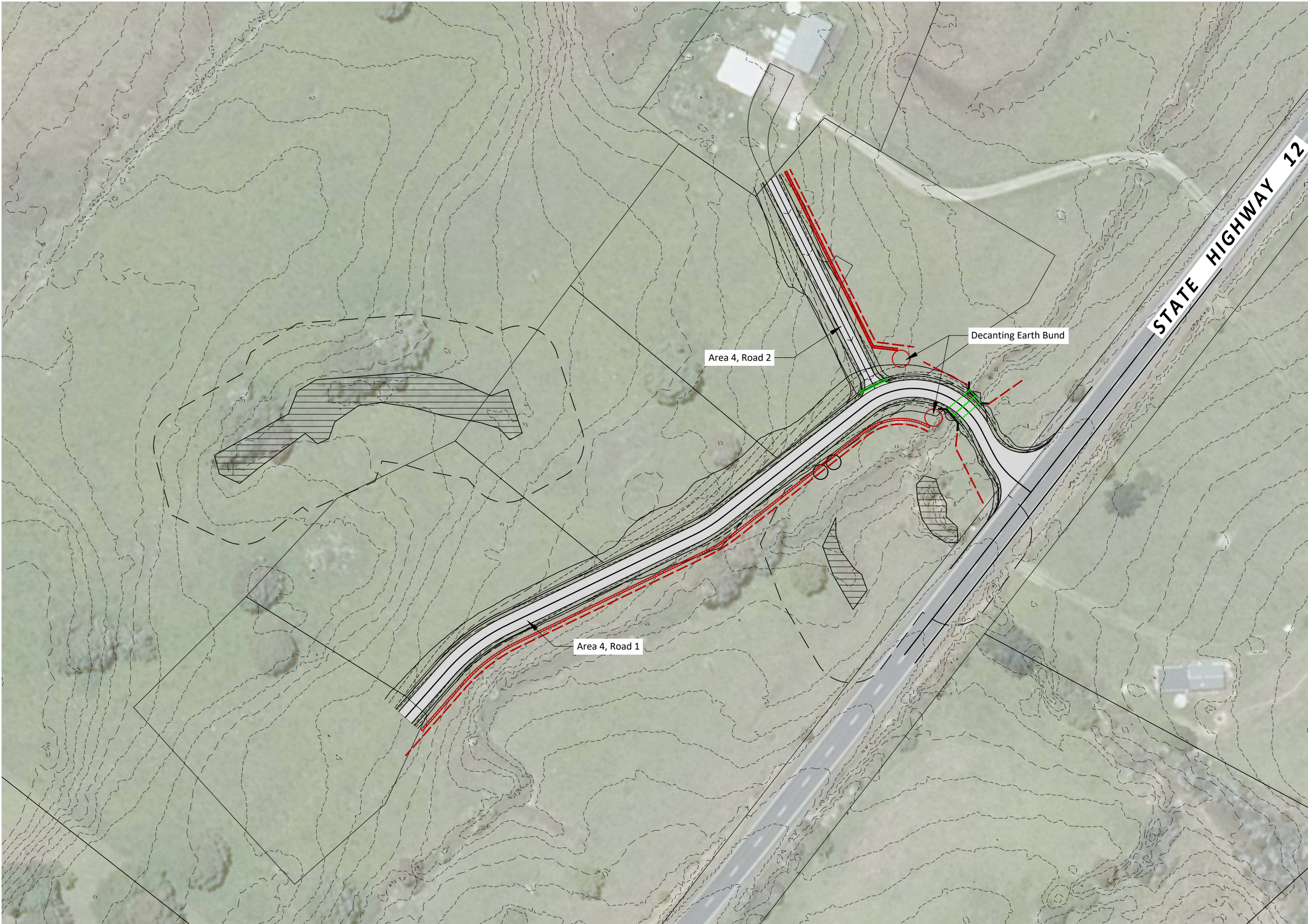
Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



WORK IN PROGRESS

AREA 2 - LAYOUT PLAN
1:2,000

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							06/12/2024 A For Consent				Job No.	
							Date Rev Notes				18837	
							Drawn by: NW		Reviewed by: MJ		Approved by: MJ	



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LEGEND


- Wetland 15m setback
- ex Wetland
- Vehicular Crossings
- Bund
- Silt Fence
- pr SW Culverts

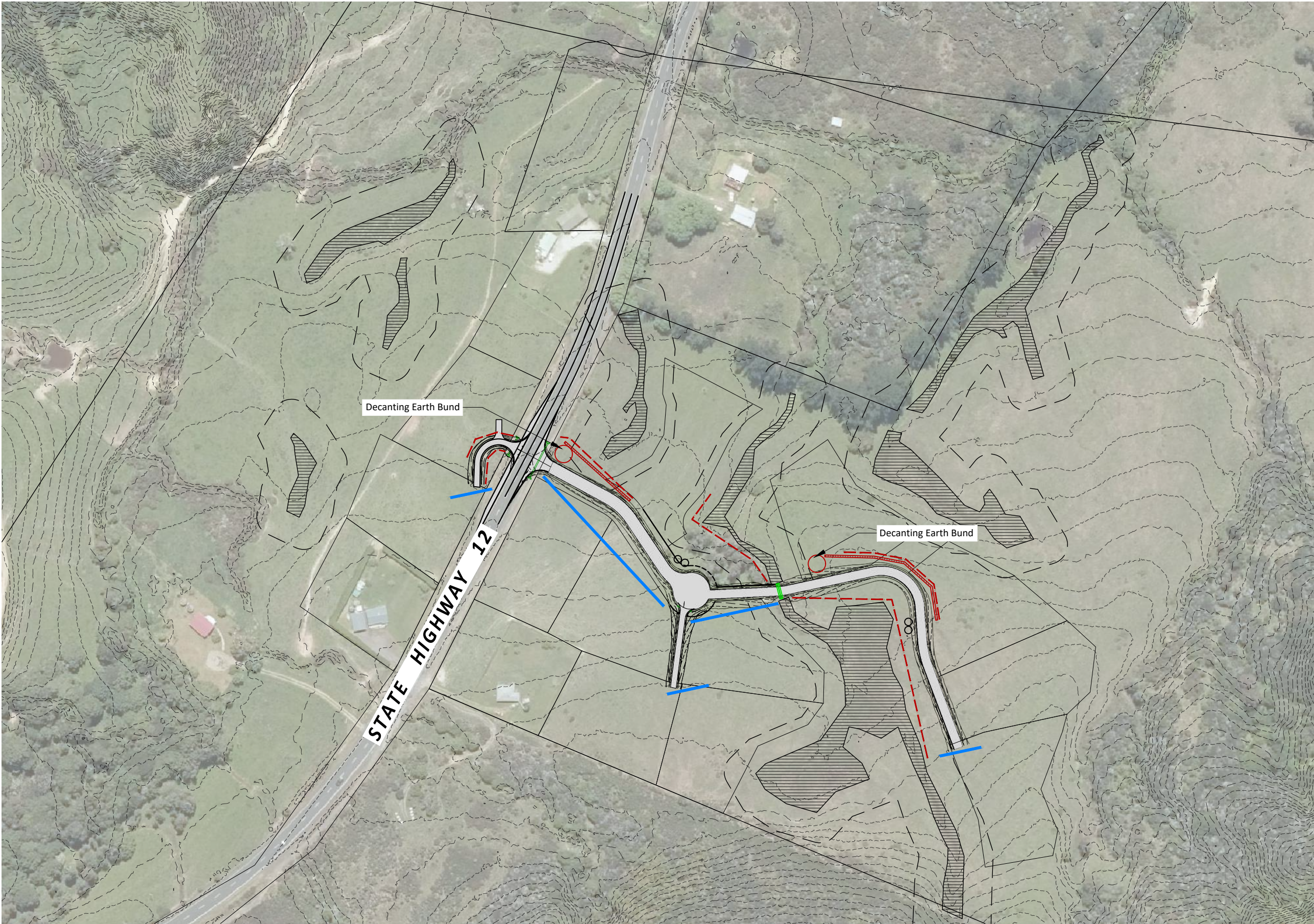
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Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

AREA 4 - LAYOUT PLAN
1:1,000

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			WAIMA TOPU B TRUST									
			Location						Original	A3	Sheet No.	
			STATE HIGHWAY 12, WAIMA HOKIANGA									
			Date	Rev	Notes			Job No.	18837	C18		
			Drawn by: NW			Reviewed by: MJ		Approved by: MJ				



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LEGEND


- Wetland 15m setback
- ex Wetland
- Vehicular Crossings
- Clean Water Diversion
- Bund
- Silt Fence
- pr SW Culverts

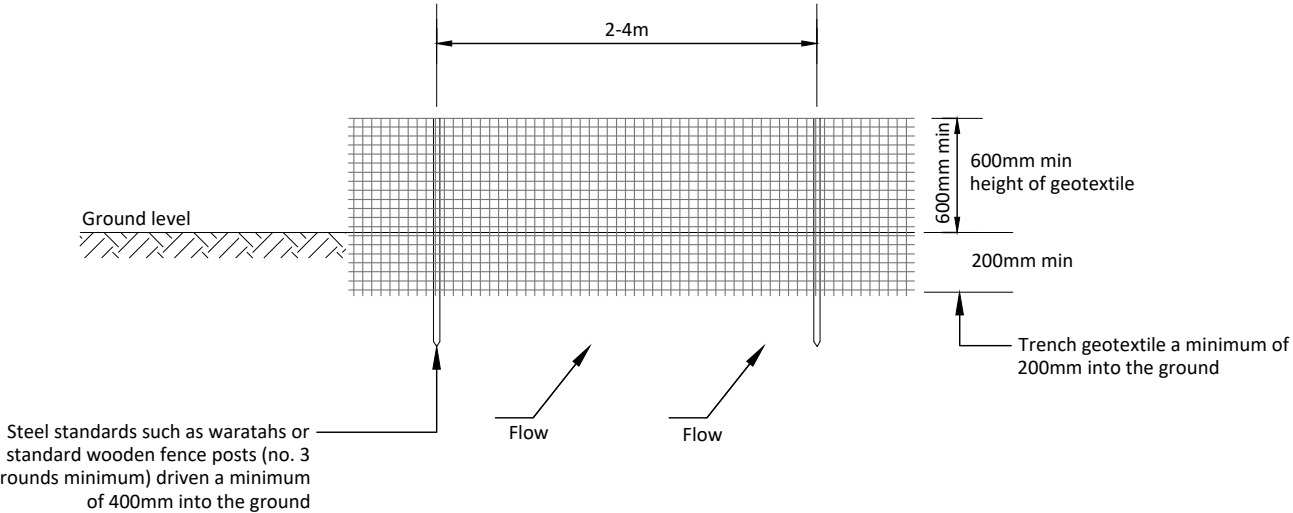
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PLAN 1:2000

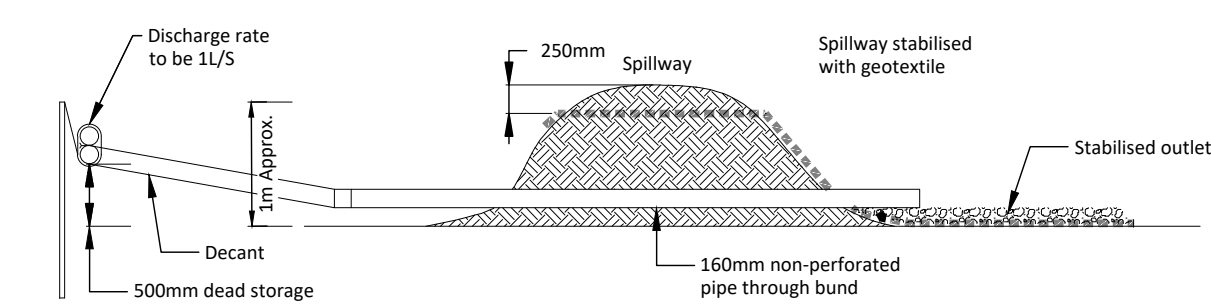
WORK IN PROGRESS

AREA 2 - LAYOUT PLAN
1:2,000

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			Location			STATE HIGHWAY 12, WAIMA HOKIANGA			24/03/2025			C			Add FFWS			1:2,000			C		
									31/01/2025			B			Layout Amendment			Original			Sheet No.		
									06/12/2024			A			For Consent			A3			C19		
			Date			Rev			Notes			Job No.			18837								
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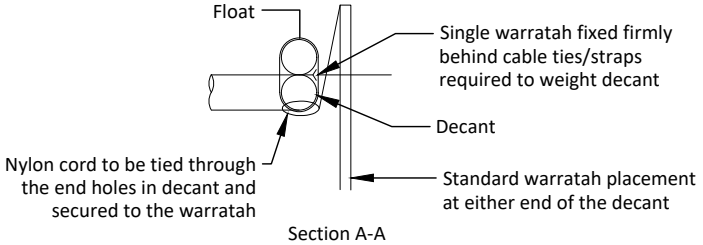
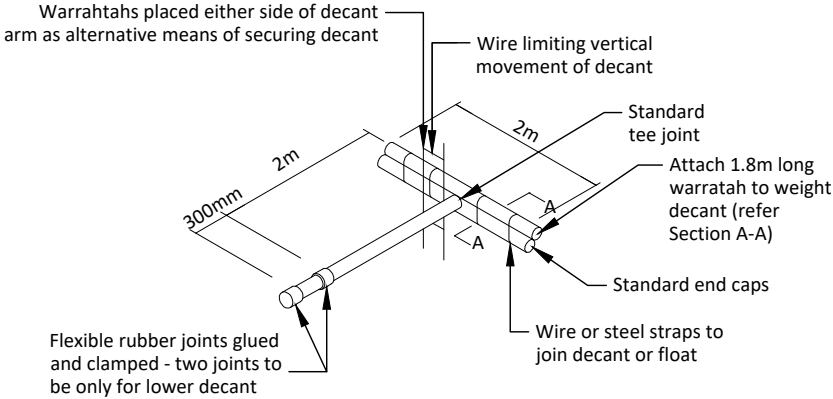


SILT FENCE ELEVATION



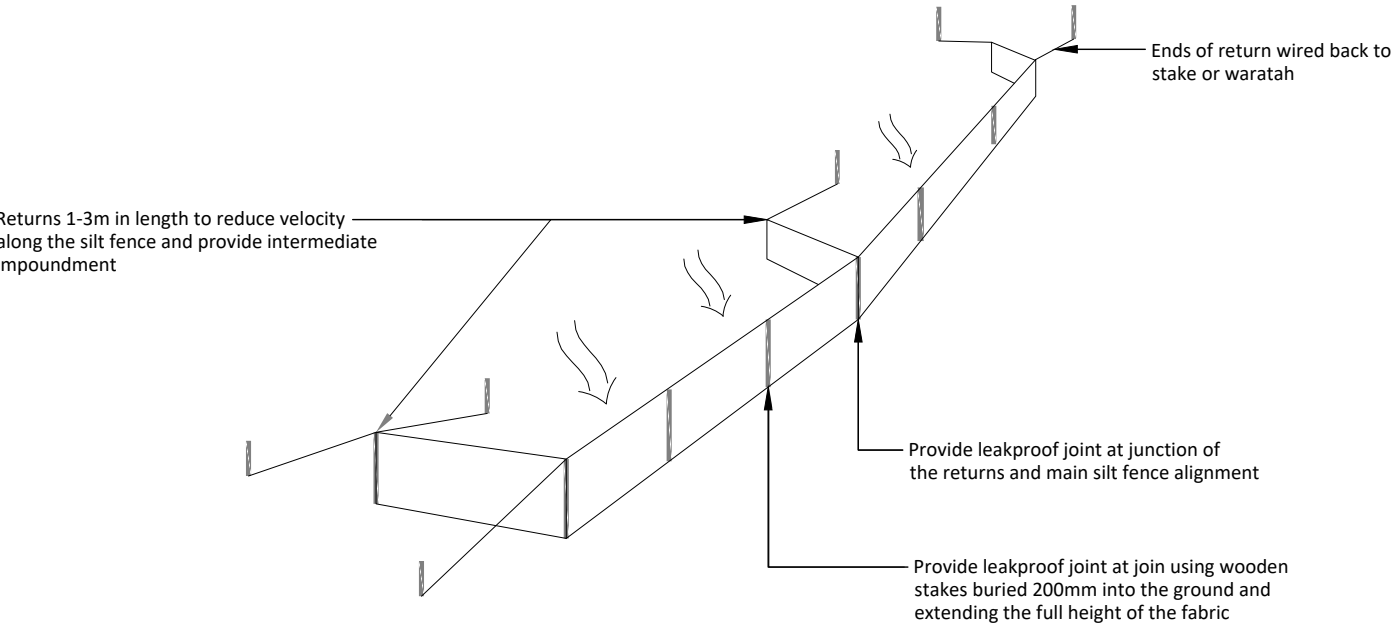
DECANTING EARTH BUND

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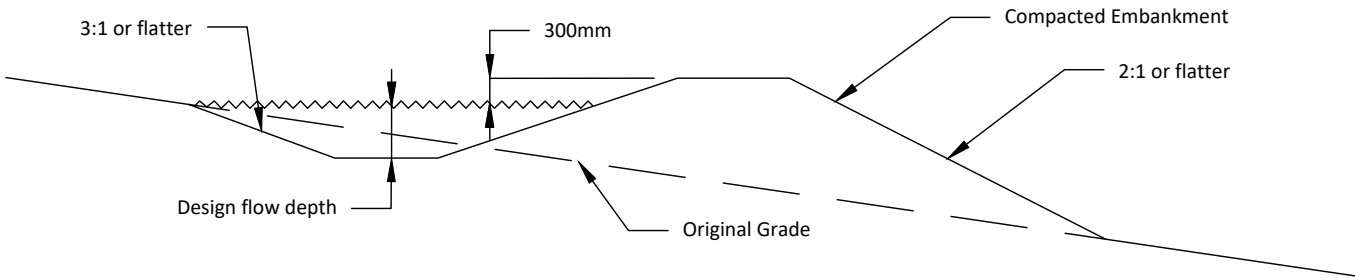


POND - DECANT DETAIL

POND - DECANT ISOMETRIC DETAIL




SILT FENCE ISOMETRIC VIEW
with returns and support wire

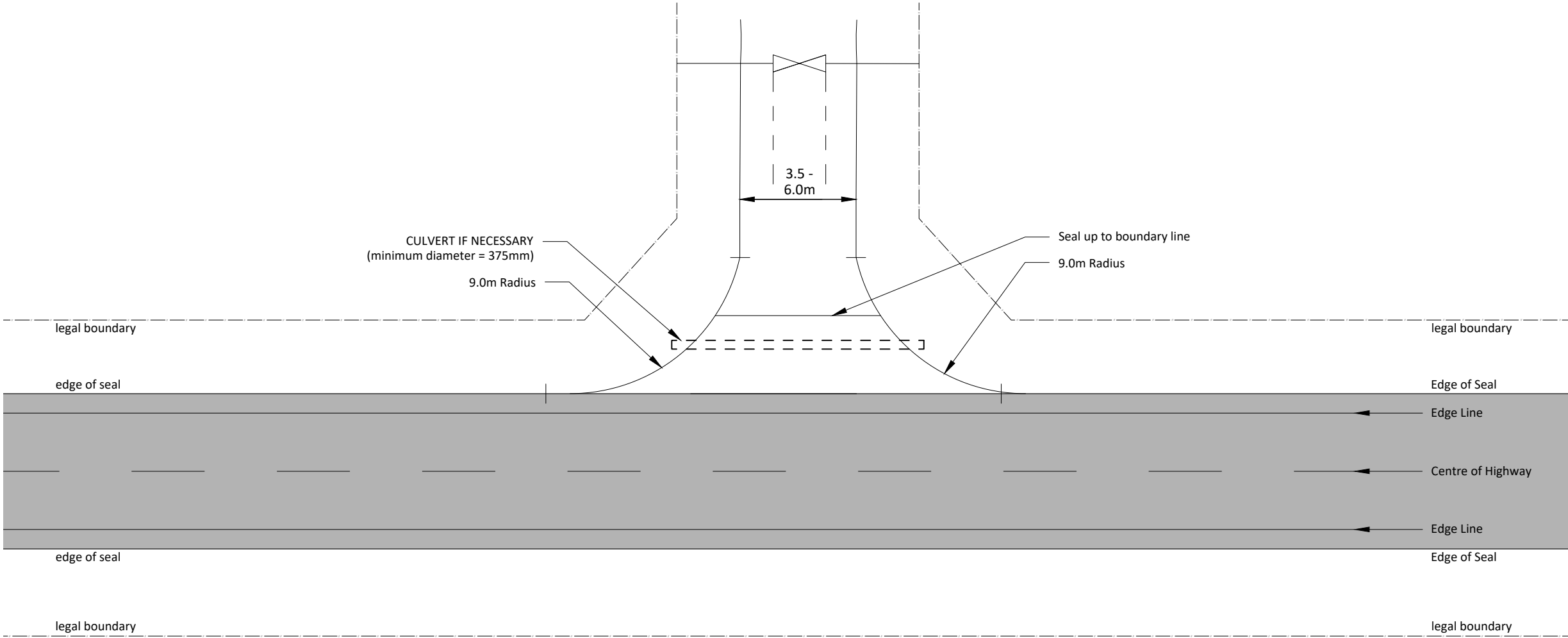


BUND CROSS SECTION

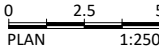
WORK IN PROGRESS


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				Location				24/03/2025		C	Add FFWS	Original		A3	Sheet No.	C16
								31/01/2025		B	Layout Amendment	Job No.				
				06/12/2024		A	For Consent	18837								
				Date		Rev	Notes									
				Drawn by: NW		Reviewed by: MJ		Approved by: MJ								

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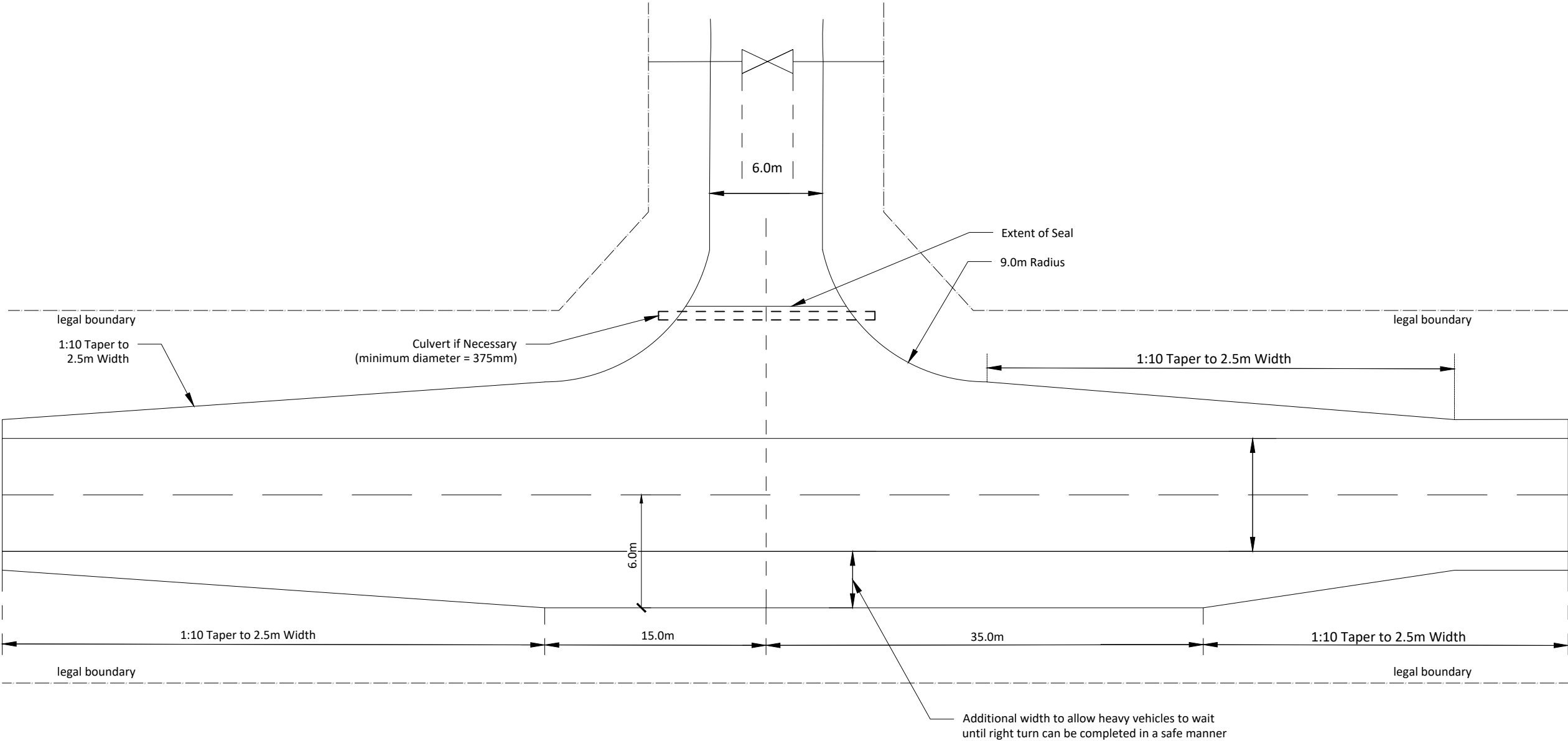


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				Location	STATE HIGHWAY 12, WAIMA HOKIANGA			24/03/2025	C	Add FFWS	Original	A3	Sheet No.
								31/01/2025	B	Layout Amendment			
								06/12/2024	A	For Consent			
					Date	Rev	Notes	Job No.	18837	C21			
					Drawn by: NW		Reviewed by: MJ	Approved by: MJ					

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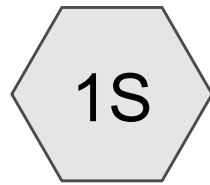
WORK IN PROGRESS

0 2.5 5
PLAN 1:250

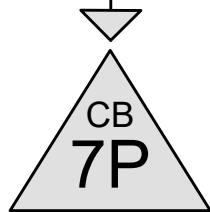
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			Location	STATE HIGHWAY 12, WAIMA HOKIANGA			24/03/2025	C	Add FFWS		Original	A3	Sheet No.	C22
							31/01/2025	B	Layout Amendment					
							06/12/2024	A	For Consent					
			Date	Rev	Notes					Job No.	18837			
			Drawn by: NW		Reviewed by: MJ		Approved by: MJ							

Appendix B

Calculations



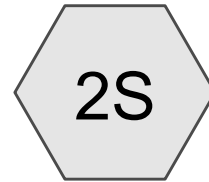
Area 2 Culvert
Catchment



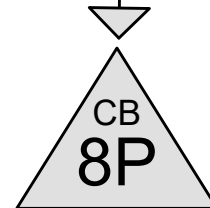
Area 2 Culvert



Area 2 Culvert



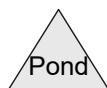
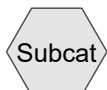
Area 4 Culvert
Catchment



Area 4 Culvert



Area 4 Culvert



Routing Diagram for Culverts

Prepared by HP Inc., Printed 15/02/2025

HydroCAD® 10.00-15 s/n 06482 © 2015 HydroCAD Software Solutions LLC

Culverts

Prepared by HP Inc.

HydroCAD® 10.00-15 s/n 06482 © 2015 HydroCAD Software Solutions LLC

Type IA 24-hr 10% AEP +20% Rainfall=158 mm, $Ia/S=0.06$

Printed 15/02/2025

Page 2

Summary for Subcatchment 1S: Area 2 Culvert Catchment

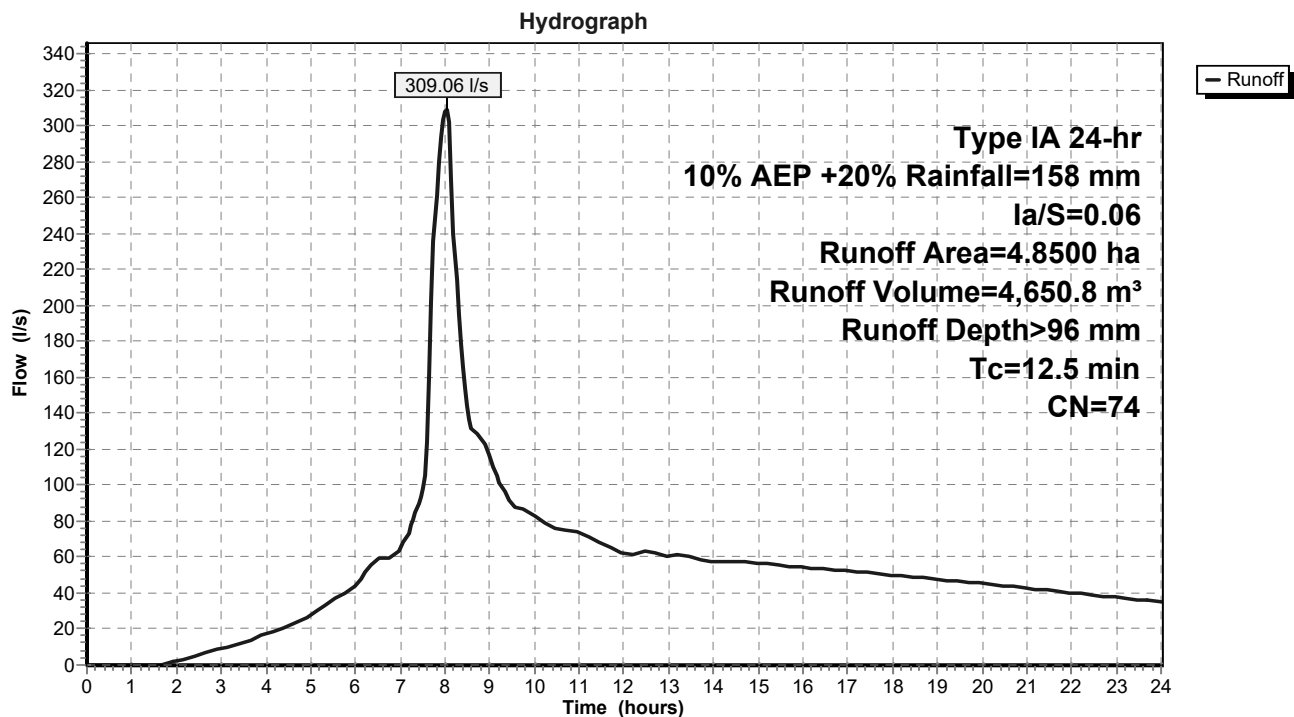
Runoff = 309.06 l/s @ 8.02 hrs, Volume= 4,650.8 m³, Depth> 96 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 10% AEP +20% Rainfall=158 mm, $Ia/S=0.06$

Area (ha)	CN	Description
4.8500	74	>75% Grass cover, Good, HSG C
4.8500		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
12.5					Direct Entry, 2

Subcatchment 1S: Area 2 Culvert Catchment



Culverts

Prepared by HP Inc.

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Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Printed 15/02/2025

Page 3

Summary for Subcatchment 2S: Area 4 Culvert Catchment

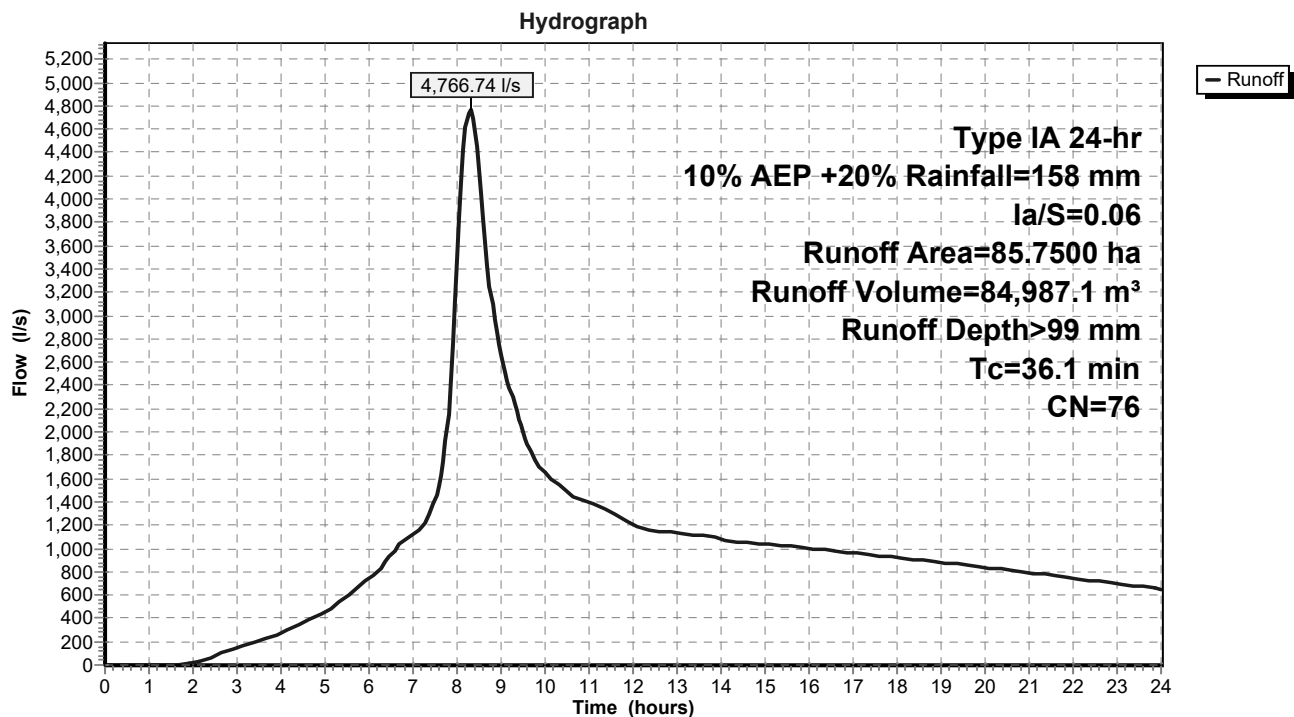
Runoff = 4,766.74 l/s @ 8.30 hrs, Volume= 84,987.1 m³, Depth> 99 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Area (ha)	CN	Description
* 85.7500	76	House roof
85.7500		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
36.1					Direct Entry,

Subcatchment 2S: Area 4 Culvert Catchment



Culverts

Prepared by HP Inc.

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Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Printed 15/02/2025

Page 4

Summary for Reach 9R: Area 2 Culvert

Inflow Area = 48,500.0 m², 0.00% Impervious, Inflow Depth > 96 mm for 10% AEP +20% event
Inflow = 309.06 l/s @ 8.02 hrs, Volume= 4,650.8 m³
Outflow = 309.07 l/s @ 8.02 hrs, Volume= 4,650.6 m³, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.06 m/s, Min. Travel Time= 0.0 min

Avg. Velocity= 1.06 m/s, Avg. Travel Time= 0.1 min

Peak Storage= 0.9 m³ @ 8.02 hrs

Average Depth at Peak Storage= 0.40 m above invert (0.10 m above fill)

Bank-Full Depth= 0.75 m above invert (0.45 m above fill) Flow Area= 0.55 m², Capacity= 1,614.62 l/s

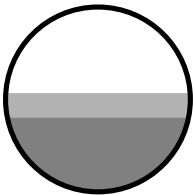
A factor of 2.00 has been applied to the storage and discharge capacity

750 mm Round Pipe w/ 300 mm inside fill

n= 0.011

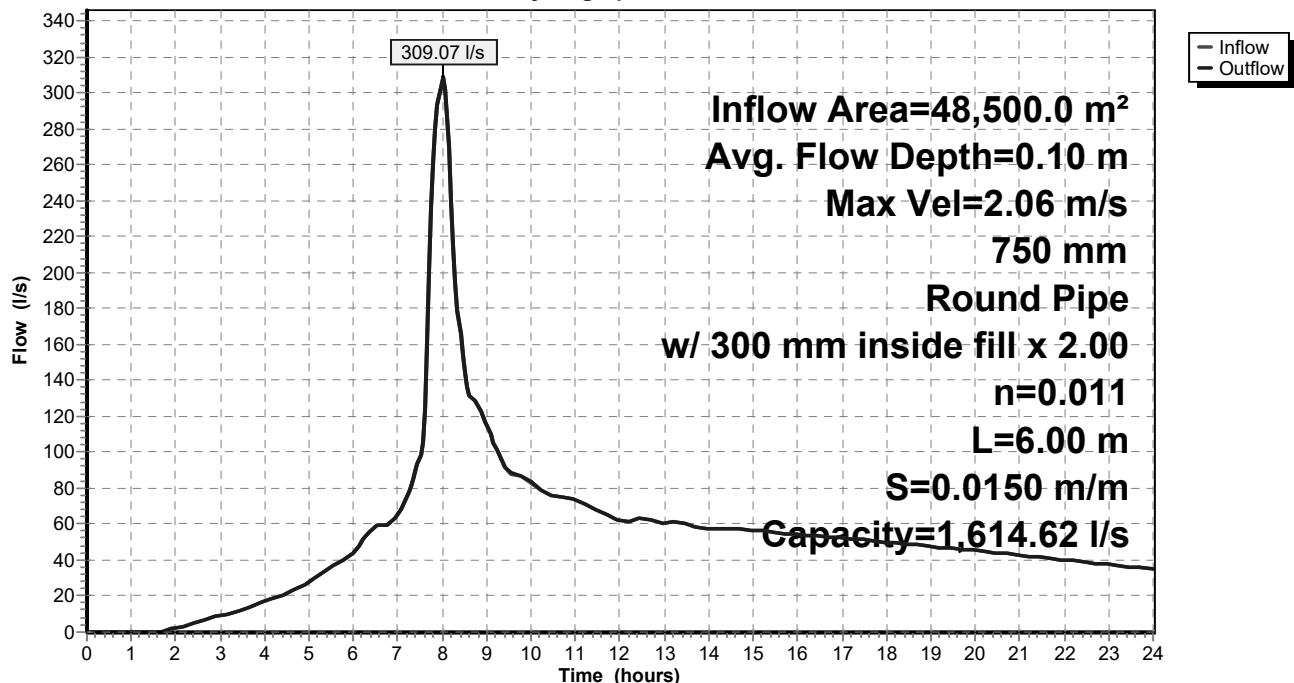
Length= 6.00 m Slope= 0.0150 m/m

Inlet Invert= 0.000 m, Outlet Invert= -0.090 m



Reach 9R: Area 2 Culvert

Hydrograph



Culverts

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Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Printed 15/02/2025

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Summary for Reach 10R: Area 4 Culvert

Inflow Area = 857,500.0 m², 0.00% Impervious, Inflow Depth > 99 mm for 10% AEP +20% event
Inflow = 4,766.74 l/s @ 8.30 hrs, Volume= 84,987.1 m³
Outflow = 4,766.83 l/s @ 8.30 hrs, Volume= 84,984.4 m³, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.07 m/s, Min. Travel Time= 0.0 min

Avg. Velocity= 2.21 m/s, Avg. Travel Time= 0.1 min

Peak Storage= 9.4 m³ @ 8.30 hrs

Average Depth at Peak Storage= 1.23 m above invert (0.28 m above fill)

Bank-Full Depth= 2.10 m above invert (1.15 m above fill) Flow Area= 3.88 m², Capacity= 21,362.96 l/s

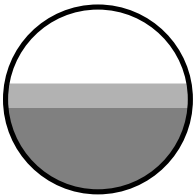
A factor of 2.00 has been applied to the storage and discharge capacity

2,100 mm Round Pipe w/ 950 mm inside fill

n= 0.011

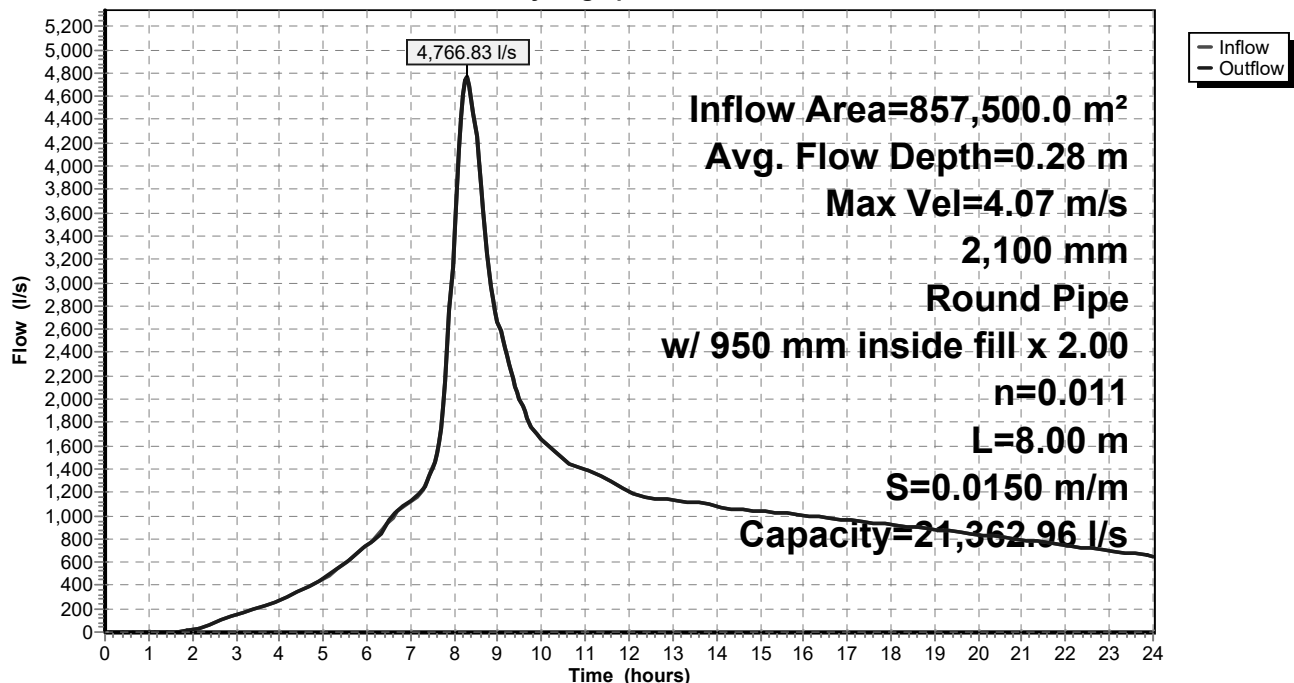
Length= 8.00 m Slope= 0.0150 m/m (101 Elevation Intervals)

Inlet Invert= 0.000 m, Outlet Invert= -0.120 m



Reach 10R: Area 4 Culvert

Hydrograph



Culverts

Prepared by HP Inc.

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Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Printed 15/02/2025

Page 6

Summary for Pond 7P: Area 2 Culvert

Inflow Area = 48,500.0 m², 0.00% Impervious, Inflow Depth > 96 mm for 10% AEP +20% event
Inflow = 309.06 l/s @ 8.02 hrs, Volume= 4,650.8 m³
Outflow = 309.06 l/s @ 8.02 hrs, Volume= 4,650.8 m³, Atten= 0%, Lag= 0.0 min
Primary = 309.06 l/s @ 8.02 hrs, Volume= 4,650.8 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

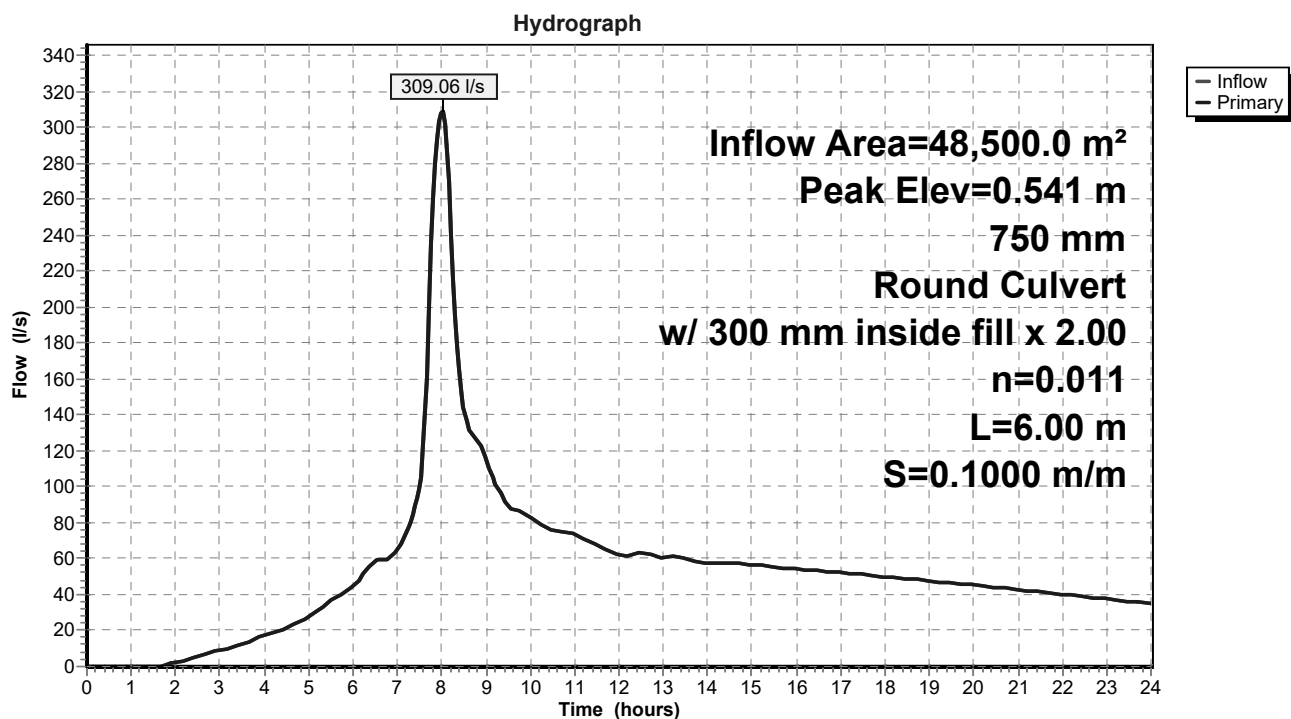
Peak Elev= 0.541 m @ 8.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.300 m	750 mm Round Culvert X 2.00 w/ 300 mm inside fill L= 6.00 m RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 0.000 m / -0.600 m S= 0.1000 m/m Cc= 0.900 n= 0.011, Flow Area= 0.277 m ²

Primary OutFlow Max=308.38 l/s @ 8.02 hrs HW=0.540 m (Free Discharge)

↑**1=Culvert** (Inlet Controls 308.38 l/s @ 0.88 m/s)

Pond 7P: Area 2 Culvert



Culverts

Prepared by HP Inc.

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Type IA 24-hr 10% AEP +20% Rainfall=158 mm, Ia/S=0.06

Printed 15/02/2025

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Summary for Pond 8P: Area 4 Culvert

Inflow Area = 857,500.0 m², 0.00% Impervious, Inflow Depth > 99 mm for 10% AEP +20% event
Inflow = 4,766.74 l/s @ 8.30 hrs, Volume= 84,987.1 m³
Outflow = 4,766.74 l/s @ 8.30 hrs, Volume= 84,987.1 m³, Atten= 0%, Lag= 0.0 min
Primary = 4,766.74 l/s @ 8.30 hrs, Volume= 84,987.1 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

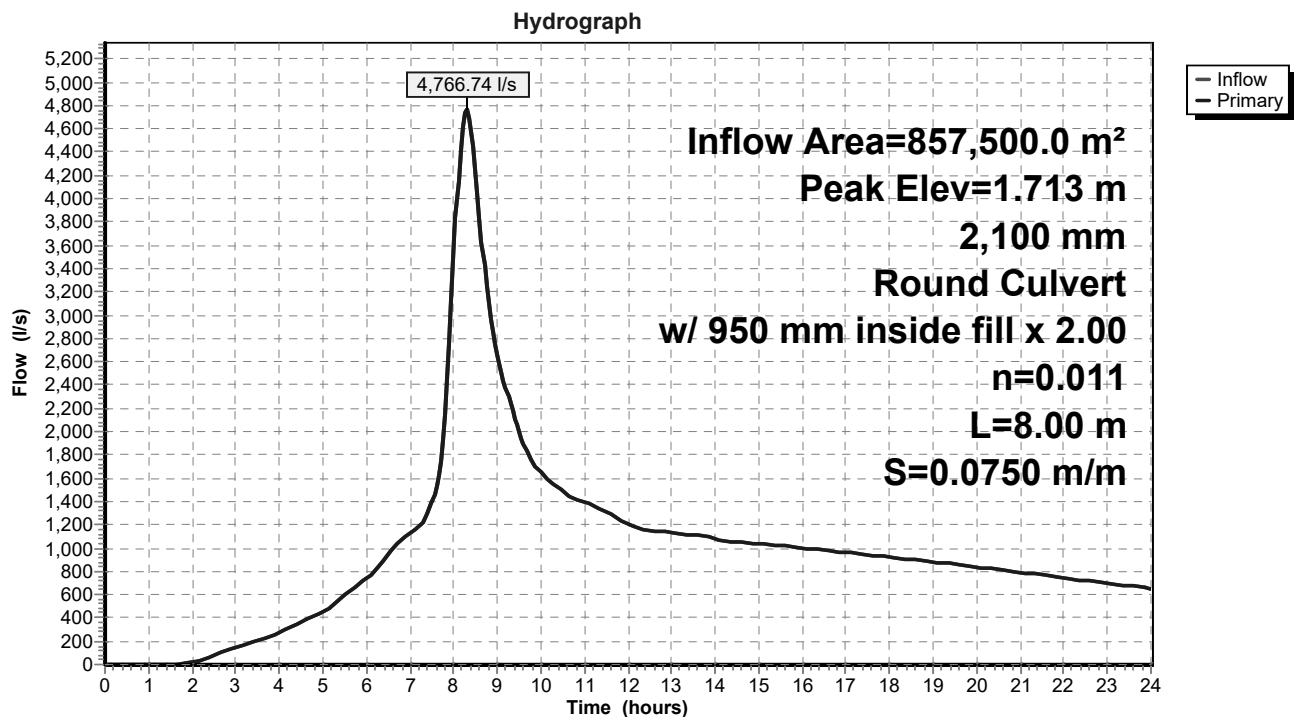
Peak Elev= 1.713 m @ 8.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.950 m	2,100 mm Round Culvert X 2.00 w/ 950 mm inside fill L= 8.00 m RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 0.000 m / -0.600 m S= 0.0750 m/m Cc= 0.900 n= 0.011, Flow Area= 1.941 m ²

Primary OutFlow Max=4,763.72 l/s @ 8.30 hrs HW=1.713 m (Free Discharge)

↑**1=Culvert** (Inlet Controls 4,763.72 l/s @ 1.59 m/s)

Pond 8P: Area 4 Culvert





GEOTECHNICAL INVESTIGATION REPORT

**State Highway 12, Waima
Hokianga
(Waima Topu B Block)**

GEOTECHNICAL INVESTIGATION REPORT

State Highway 12, Waima

Hokianga

(Waima Topu B Block)

Report prepared for: Waima Topu B Trust

Report reference: 18837

Date: 20 December 2024

Revision: 3

Document Control

Date	Revision	Description	Prepared by:	Reviewed by:	Authorised by:
19/09/2023	1	Draft	L Fuller	D Platt	M Jacobson
16/10/2023	2	Feasibility	M Jacobson	D Platt	M Jacobson
20/12/2024	3	Revised master plan	C Hay	D Platt	M Jacobson



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engineering

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Appendices

A	Drawings
B	Subsurface Investigations

GEOTECHNICAL INVESTIGATION REPORT

State Highway 12, Waima, Hokianga

(Waima Topu B Block)

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Waima Topu B Trust to investigate the geotechnical suitability of their property (Waima Topu B Block) for a papakāinga development. The purpose of this report is to assess the geotechnical feasibility of the land and provide preliminary foundation and site development recommendations to support resource consent application.

The client proposes to build a number of timber floor, timber framed buildings on the property, as part of a papakāinga development.

2.0 Site Description

This 688ha property is located approximately 3km west of Horeke Road with the majority of the property being bound by Waima Valley Road and Puha Road. A small portion of property is located on the southeastern side of State Highway 12. The property generally encompasses moderate to steep terrain up to a height of approximately 175m, with a dominant ridgeline orientated north to south. Adjacent to the northwestern and southeastern sides of State Highway 12, slopes are gentle to moderate, falling towards the base of a valley at the Whawharu Stream. Groundcover across most of the property is in pasture, pine trees and regenerating native. The proposed papakāinga will be situated on the gently graded slopes adjacent to State Highway 12 covered in pasture.



Figure 1: Waima Topu B Block.

3.0 Desk Study

3.1 Referenced/Reviewed Documents

The following documents have been referenced in this report:

- GNS – Geology Of The Kaitaia Area – Map 1.

3.2 Site Geology

The GNS 1:250,000 scale New Zealand Geology Web Map indicates that the property is located within an area that is underlain Punakitere Sandstone of the Northland Allochthon and alluvium of the Awhitu Group. The Punakitere Sandstone is described as follows: *“Weakly to moderately indurated, alternating thin- to thick-bedded, quartzofeldspathic sandstone and mudstone.”*

The mapped alluvium was not identified during our investigation. Although localised recent alluvium was identified, the valley appears to be infilled with a Basalt lava flow, of the Kerikeri Volcanic Group. It is likely the flow infilled the valley during the early Pleistocene, with its source

likely being far to the east, since eroded away by the Taheke River. The Kerikeri Volcanic Group is described as follows: *“Basalt lava and volcanic plugs.”*

3.3 Aerial Photography

RS Eng has undertaken a review of several historic aerial photographs, specifically images from 1953 to present day. See Figure 2 below of the 1953 image. Upon review of these images, no features consistent with recent slope instability are evident in the proposed development areas. Land cover has remained generally consistent, with some scrubland that has been converted to farmland in the eastern area of the proposed development.



Figure 2: 1953 Aerial Image, northeastern area (Source: www.retrolens.nz).



Figure 3: 1981 Aerial Image, southwestern area (Source: www.retro lens.nz).

4.0 Field Investigation

A Technician and Geologist from this office visited the property on 5 & 6 September 2023 to undertake a walkover inspection and 35 hand augers.

No features of slope instability were observed during the walkover inspection; however, localised erosion was evident near overland flow paths and streams.

The hand augers were dug to a maximum depth of 4.0m below ground level (BGL). Shear Vane readings were taken at regular intervals throughout the hand augers. Soil and rock descriptions are in general accordance with the New Zealand Geotechnical Society guideline.

Four Cone Penetration Tests (CPT) were completed on 5 September 2023 by Geo Data Solutions New Zealand Limited, across the building areas. CPT03 reached a maximum depth of 4.22m BGL, all terminating due to exceeding the permissible cone resistance.

5.0 Subsoil Conditions

Interpretation of subsurface conditions is based on the investigations shown on the drawings in Appendix A. The conditions are summarised below.

- Fill was not encountered during subsoil investigations.
- Topsoil was encountered at depths between 0.1m – 0.2m across the proposed building areas.
- Over the elevated areas, residual soils of Mangakahia Complex were observed consisting of firm to stiff clayey silt and silty clays to a maximum depth of 4.0m BGL. The soil was moist

and low to high plasticity. In-situ undrained shear strengths ranged from 73kPa to greater than 230kPa.

- Over the elevated areas and steep terrain, completely weathered Sandstone was observed consisting of very stiff silt with some clay and fine sand, being moist and non-plastic. In-Situ Undrained Shear Strengths ranged from 104kPa to greater than 230kPa.
- In the base of the valley, residual soils and weathered basalt of Kerikeri Volcanic Group were observed to a maximum depth of 2.7m BGL consisting of stiff to very stiff clayey silts and silty clays with trace medium sub-angular gravels, being moist and low to high plasticity. In-Situ Undrained Shear Strengths ranged from 74kPa to greater than 230kPa.
- Recent alluvium was observed atop the Kerikeri volcanics, to a maximum depth of 2.2m BGL consisting of firm to stiff clayey silts and silty clays being wet to moist, and low to high plasticity. In-Situ Undrained Shear Strengths ranged between 73kPa to 131kPa.
- Groundwater was observed across the property/development areas at varying depths, from the ground surface to 0.5m to 3.5m BGL.

6.0 Geotechnical Assessment

6.1 Slope Stability

The proposed development is typically situated on gentle slopes (approximately 5° - 10°). The walkover inspection did not observe any signs of active or historic slope instability at the proposed building areas. Erosion was evident along the watercourse banks (<2.0m in height) resulting in minor slippage and slumping into the watercourses.

Considering the gentle slopes available, subsoil conditions observed, RS Eng generally considers the land as being at a low risk of slope instability.

6.2 Static Settlement

The firm to stiff alluvial soils observed during investigations have been assessed as being lightly to moderately over consolidated. Settlement from the lightweight buildings and shallow fill depths is unlikely. Surcharge loading should be limited to single story light weight construction on NZS3604 type foundations. Fill depths greater than 0.5m will need specific geotechnical review at the detailed design stage.

6.3 Liquefaction

The proposal is positioned on land underlain by soils that are generally cohesive in nature and therefore unlikely to liquefy when subjected to seismic shaking. RS Eng considers the risk of liquefaction to be low.

6.4 Expansive Soils

The clayey soils encountered on-site are likely to be subject to volumetric change with seasonal changes in moisture content (wet winters / dry summers); this is known as expansive or reactive soils. Apart from seasonal changes in moisture content other factors that can influence soil moisture content at the include:

- Influence of garden watering and site drainage.
- The presence of large trees close to buildings. Large trees can cause variation in the soil moisture content for a distance of up to 1.5 times their mature height.
- Initial soil moisture conditions during construction, especially during summer and more so during a drought. Building platforms that have dried out after initial excavation should be thoroughly wet prior to any floor slabs being poured.
- Plumbing leaks.

Based on the visual observations made during the investigation and previous laboratory test results within similar soils, RS Eng Ltd considers the soils as being Class H1 (Highly Reactive) as per AS 2870.

7.0 Recommendations

7.1 Site Subsoil Class

In accordance with NZS 1170.5:2004, Section 3.12.3 the site has been assessed for its Site Subsoil Class. Based on the observation listed above RS Eng considers the site soils lie within Site Class C *“Shallow Soil Site.”*

7.2 Earthworks

To form accessways and to create building platforms, earthworks are proposed. RS Eng makes the following earthworks recommendations for the development.

- Cuts shall be limited to a maximum depth of 1.5m without further geotechnical review.
- Fills above existing ground level shall be limited to 0.5m without further geotechnical review.
- Cut batters should be sloped at angles less than 1V to 3H or be suitably retained.
- Exposed earth shall be surfaced and protected from erosion as soon as possible following disturbance.
- Site works shall generally be completed in accordance with NZS4431.

7.3 Shallow Foundations

NZS 3604 type timber pile foundations will be suitable for the proposed papakāinga development provided they are specifically designed to account for expansive soils, with specific testing and classification completed at the building consent stage. RS Eng assesses that an Ultimate Bearing Capacity of 200kPa - 300kPa is available beneath the topsoil layer, however, this shall be subject to specific geotechnical investigation and assessment at the building consent stage. Any foundation shall also be setback a minimum of 5.0m from the crest of slopes falling into watercourses.

7.4 Further Engineering

Further investigation may be required at detailed design stage.

Site and building specific investigation, review, and design are required to support future building consent applications, to be completed once building proposals are finalised.

8.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to determine the engineering suitability of the proposed papakāinga development, in relation to the material covered by the report. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed. If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, RS Eng should be contacted immediately.

Construction site safety is the responsibility of the builder/contractor. The recommendations included herein should not be construed as direction of the contractor's methods, construction sequencing or procedures. RS Eng can provide recommendations if specifically engaged to, upon request.

This report does not address matters relating to the National Environmental Standard for Contaminated Sites, and if applicable separate advice should be sought on this matter from a suitably qualified person.

Prepared by:



Codie Hay
Technician
NZDE(Civil)

Reviewed by:



David Platt
Geotechnical Team Leader
NZDE(Civil), MEngNZ

Approved by:

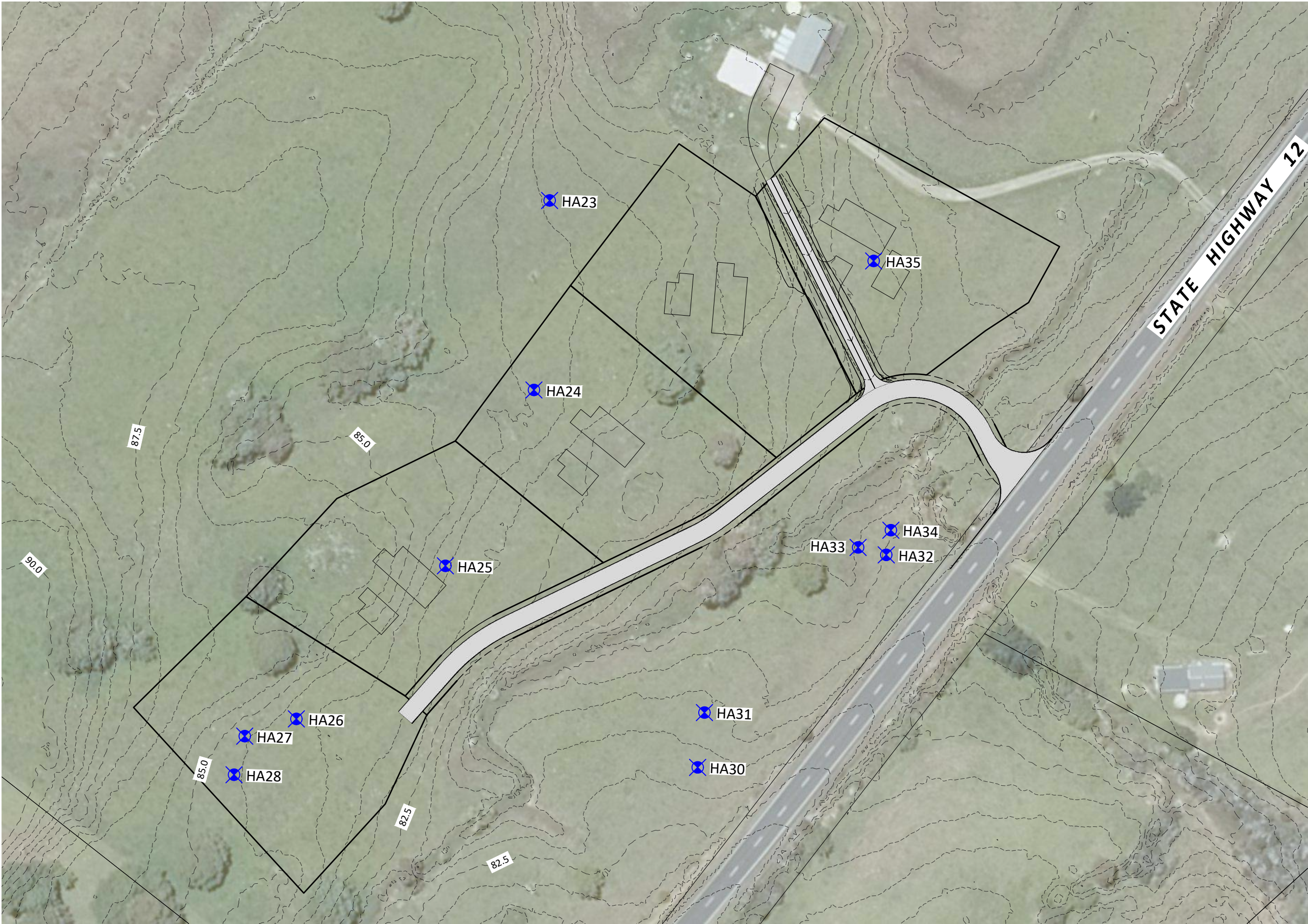


Matthew Jacobson
Director
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

RS Eng Ltd

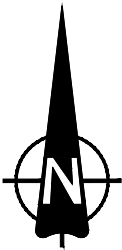
Appendix A

Drawings



NOTES:

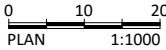
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LEGEND

- Hand Auger Location
- Cone Penetration Test Location
- Future Dwelling

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)



AREA 4 - INVESTIGATION PLAN
1:1,000

	RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110	These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission. If any part of these documents are unclear, please contact RS Eng Ltd.	PROPOSED PAKAINGA DEVELOPMENT CIVIL DRAWINGS AREA 4 - INVESTIGATION PLAN	Client WAIMA TOPU B TRUST						Scale 1:1,000	Rev No. A
				Location STATE HIGHWAY 12, WAIMA HOKIANGA						Original A3	Sheet No. 1
								20/12/2024 A For Consent			
				Date		Rev	Notes		Job No. 18837		
				Drawn by: CH			Reviewed by: MJ		Approved by: MJ		

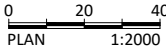


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- LEGEND**
- ✕ Hand Auger Location
 - ⊕ Cone Penetration Test Location
 - ▭ Future Dwelling

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)





AREA 2 - INVESTIGATION PLAN
1:2,000

	RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110	These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission. If any part of these documents are unclear, please contact RS Eng Ltd.	PROPOSED PAKAINGA DEVELOPMENT CIVIL DRAWINGS AREA 2 - INVESTIGATION PLAN	Client WAIMA TOPU B TRUST								Scale 1:2,000		Rev No. A	
				Location STATE HIGHWAY 12, WAIMA HOKIANGA								Original A3		Sheet No.	
				20/12/2024		A		For Consent							
				Date		Rev		Notes				Job No. 18837		2	
				Drawn by: CH				Reviewed by: MJ		Approved by: MJ					

Appendix B

Subsurface Investigations

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>		HAND AUGER LOG					HOLE NO.: HA01	
CLIENT: PROJECT:		Waima Topu B Trust Geotechnical Investigations					JOB NO.: 18837	
SITE LOCATION: State Highway 12, Waima		ELEVATION: Ground					START DATE: 06/09/2023	
CO-ORDINATES: 1657323mE, 6074031mN							END DATE: 06/09/2023	
							LOGGED BY: LF	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.0	TS		50	140	
	Clayey SILT, with some sand; brown. Stiff; moist; low plasticity; sand, fine.		0.2			69		
			0.4					
			0.6					
	Silty CLAY; light brown, mottled orange. Firm - stiff; moist; high plasticity.		0.8			171		
			1.0			102		
			1.2					
			1.4					
			1.6			99		
			1.8			58		
			2.0			84		
			2.2			49		
	2.2m - White mottled orange.		2.4					
			2.6			76		
			2.8			46		
	Completely weathered; SILTSTONE. SILT, with some clay and sand; light brown/white. Very stiff; moist; non-plastic; sand, fine to medium.		3.0			104		
			3.2			61		
	3.2m - brownish orange		3.4					
			3.6			186		
			3.8			96		
	Unable to penetrate inferred sandstone End Of Hole: 3.70m							
PHOTO(S)				REMARKS				
								
				WATER ▼ Standing Water Level ▷ Out flow ◁ In flow				
				INVESTIGATION TYPE <input checked="" type="checkbox"/> Hand Auger <input type="checkbox"/> Test Pit				

HAND AUGER LOG

HOLE NO.:

HA02

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima

START DATE: 06/09/2023

CO-ORDINATES: 1657282mE, 6074040mN

ELEVATION: 71m

END DATE: 06/09/2023

LOGGED BY: AT

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)													VANE SHEAR STRENGTH (kPa) Vane: GEO3616					WATER				
																		Values									
					2	4	6	8	10	12	14	16	18	50	100	150	200										
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.2	TS TS TS																							
Mangakahia Complex	Clayey SILT; light brown. Stiff; moist to dry; low plasticity.		0.4																								
			0.6																								
	0.8 m - Some sands, firm - stiff, mottled orange,		0.8																								
			1.0																								
			1.2																								
	1.4 m - Non plastic.		1.4																								
			1.6																								
	1.6 m - White mottled orange.		1.8																								
			2.0																								
			2.2																								
	SILT, with some clay; orange, mottled white. Very dense; dry; non-plastic.		2.4																								
	2.3 m - White mottled orange.		2.6																								
			2.8																								
			3.0																								
SILT, with some clay; brown. Very stiff; moist; low plasticity.		3.2																									
		3.4																									
		3.6																									
		3.8																									
		4.0																									
	UTP Sandstone. End Of Hole: 4.00m		4.2																								




06/09/2023

PHOTO(S)



REMARKS

WATER









 Standing Water Level
 Out flow
 In flow









INVESTIGATION TYPE


☒ Hand Auger

☐ Test Pit

Generated with CORE-GS by Geroo - 1 - Hand Auger - RS Standard scale & vane bars - 12/09/2023 3:57:16 pm

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		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>			
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657251mE, 6074066mN</div>		<div>ELEVATION: 69.8m</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>			
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm) 2 4 6 8 10 12 14 16 18				VANE SHEAR STRENGTH (kPa) Vane: GEO3616 50 100 150 200 Values		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.										
Clayey SILT	Clayey SILT, with some sand; grey. Stiff; moist to dry; non-plastic; sand, fine.		0.2								
Basalt	Completely weathered; reddish brown mottled black and orange; BASALT; extremely weak. SILT, with some sand, with minor clay. Very stiff; moist; non-plastic.		0.4								
UTP	UTP End Of Hole: 0.50m		0.6								
			0.8								
			1.0								
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								
			2.2								
			2.4								
			2.6								
			2.8								
PHOTO(S)					REMARKS						
					<div><div>WATER</div><div><div> Standing Water Level</div><div> Out flow</div><div> In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>						

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		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>											
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657225mE, 6074068mN</div>		<div>ELEVATION: 69.3m</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>											
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane: GEO3616				WATER						
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.																		
	Clayey SILT, with some sand; grey. Stiff; moist to dry; non-plastic; sand, fine.		0.2																
	Completely weathered; reddish brown mottled black and orange; BASALT; extremely weak. SILT, with some sand, with minor clay. Very stiff; moist; non-plastic.		0.4																
	UTP End Of Hole: 0.50m		0.6																
			0.8																
			1.0																
			1.2																
			1.4																
			1.6																
			1.8																
			2.0																
			2.2																
			2.4																
			2.6																
			2.8																
PHOTO(S)					REMARKS														
					<div><div>WATER</div><div><div> Standing Water Level</div><div> Out flow</div><div> In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>														

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<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>																	
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657264mE, 6074085mN</div>					<div>ELEVATION: 64.8m</div>														
					<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>														
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)			VANE SHEAR STRENGTH (kPa) Vane: GEO3616			WATER								
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS															
Awitu Gr	Completely weathered; BASALT; extremely weak. SILT, with some clay; brown, mottled orange and black. Dense; dry; non-plastic.		0.2	TS															
Kerikeri Volcanics	Silty CLAY; light brown, mottled orange. Stiff; moist; high plasticity.		0.4	TS															
			0.6	TS															
			0.8	TS															
			1.0	TS															
			1.2	TS															
Mangakahia Complex	1.3 m - White, mottled orange and brown and green.		1.4	TS															
	1.5 m - Trace medium sub-angular gravels.		1.6	TS															
			1.8	TS															
	Unable to recover - suction End Of Hole: 2.00m		2.0	TS															
			2.2																
			2.4																
			2.6																
			2.8																
PHOTO(S)				REMARKS															
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↵ In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>															



HOLE NO.:
HA06

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1657205mE, 6074073mN

ELEVATION: 67.8m




[illegible]

PHOTO(S)



REMARKS


WATER

-  Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
- ☐ Test Pit

Generated with CORE-GS by Geroo - 1 - Hand Auger - RS Standard scale & vane bars - 12/09/2023 3:57:39 pm

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<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>						
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657230mE, 6074126mN</div>		<div>ELEVATION: Ground</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: LF</div>						
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.0	TS				
	Clayey SILT, with some sand; dark brown. Stiff; moist; low plasticity; sand, fine.		0.2					
	0.3m - brownish orange		0.4					
			0.6					
	Silty CLAY; light brownish orange. Firm - stiff; moist; high plasticity.		0.8					
			1.0					
			1.2					
			1.4					
			1.6					
			1.8					
			2.0					
			2.2					
			2.4					
	Silty CLAY, with some sand; light brown, mottled grey. Firm to stiff; high plasticity; sand, fine.		2.6					
			2.8					
			3.0					
			3.2					
			3.4					
	Completely weathered; SILTSTONE. SILT, with some clay and sand; greyish green. Very stiff; moist; non-plastic; sand, fine to medium.		3.6					
	Unable to penetrate inferred sandstone. End Of Hole: 3.70m		3.8					
PHOTO(S)			REMARKS					
			<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↔ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>					



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office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.:
HA08

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1657166mE, 6074100mN

ELEVATION: 64m

START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: AT


UNIT	MATERIAL DESCRIPTION <small>(See Classification & Symbology sheet for details)</small>	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER <small>(Blows / 0mm)</small>	VANE SHEAR STRENGTH <small>(kPa)</small> Vane: Values	WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.				2 4 6 8 10 12 14 16 18	50 100 150 200	
Volgagakahia Comp	SILT, with some clay; greyish white. Very dense; moist; non-plastic.		0.2				
Volgagakahia Comp	Completely weathered; reddish brown mottled black and orange; BASALT; extremely weak. SILT, with some sand, with minor clay. Very stiff; moist; non-plastic.		0.4				
UTP	UTP End Of Hole: 0.55m		0.6				
			0.8				
			1.0				
			1.2				
			1.4				
			1.6				
			1.8				
			2.0				
			2.2				
			2.4				
			2.6				
			2.8				

PHOTO(S)


















REMARKS


WATER


-  Standing Water Level
 Out flow
 In flow



INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>		HAND AUGER LOG					HOLE NO.: HA09	
CLIENT: Waima Topu B Trust PROJECT: Geotechnical Investigations							JOB NO.: 18837	
SITE LOCATION: State Highway 12, Waima CO-ORDINATES: 1657158mE, 6074158mN		ELEVATION: Ground					START DATE: 06/09/2023 END DATE: 06/09/2023 LOGGED BY: LF	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.							
Kerikeri Volcanics	Clayey SILT, with some sand; dark brown. Stiff; moist; low plasticity; sand, fine		0.2					
	0.4m - brownish orange		0.4					
			0.6					
			0.8					
			1.0					
			1.2					
	Silty CLAY; light brownish orange. Firm - stiff; moist; high plasticity.		1.4					
			1.6					
			1.8					
			2.0					
	Completely weathered; SILTSTONE. SILT, with some clay and sand; with minor grabels; light brown/orange. Very stiff; moist; non-plastic; sand, fine to medium; gravels , angular, fine.		2.2					
	Unable to penetrate inferred basalt End Of Hole: 2.40m		2.4					
			2.6					
			2.8					
PHOTO(S)				REMARKS				
				<div>WATER <input checked="" type="checkbox"/> Standing Water Level <input type="checkbox"/> Out flow <input type="checkbox"/> In flow</div> <div>INVESTIGATION TYPE <input checked="" type="checkbox"/> Hand Auger <input type="checkbox"/> Test Pit</div>				

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<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>						
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657108mE, 6074116mN</div>					<div>ELEVATION: 64.3m</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>			
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3616		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS TS TS				
ahia	SILT, with some clay; greyish white. Very dense; moist; non-plastic.		0.2					
Kerikeri Volcanics	Completely weathered; reddish brown mottled black and orange; BASALT; extremely weak.		0.4					
	SILT, with some sand, with minor clay. Very stiff; moist; non-plastic.							
	Clayey SILT, with some sand; light brown. Very stiff; moist; low plasticity.		0.6				184	
			0.8				33	
Mangakahia Complex			1.0				82	
			1.2				33	
	1.2 m - High plasticity		1.4					
			1.6				230+	
Punakitere Sa	1.9 m - inflow, low-plasticity, some sand, wet-saturated.		2.0					
			2.2					
	Unable to recover - suction. End Of Hole: 2.30m		2.4					
			2.6					
			2.8					
PHOTO(S)				REMARKS				
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↵ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>				

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<div><div>SITE LOCATION:</div><div>State Highway 12, Waima</div><div>CO-ORDINATES:</div><div>1657109mE, 6074225mN</div></div>						<div><div>ELEVATION:</div><div>58.13m</div></div>		<div><div>START DATE:</div><div>06/09/2023</div><div>END DATE:</div><div>06/09/2023</div><div>LOGGED BY:</div><div>AT</div></div>	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3616		WATER	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.				2 4 6 8 10 12 14 16 18	50 100 150 200	Values		
Kerikeri Volcanics	Clayey SILT, with some sand; brown. Stiff; moist; low plasticity.		0.2						
	0.4 m - High plasticity		0.4					104	
			0.6					44	
			0.8						
			1.0					107	
			1.2					41	
			1.4						
			1.6					164	
			1.8					3	
	1.5 m - Inflow, trace fine gravels.		2.0						
	Unable to recover - suction. End Of Hole: 1.60m		2.2						
			2.4						
			2.6						
			2.8						
PHOTO(S)				REMARKS					
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↔ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>					

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<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>						
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657133mE, 6074270mN</div>		<div>ELEVATION: 56.7m</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>						
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3616		WATER
					2 4 6 8 10 12 14 16 18	50 100 150 200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.2	TS				
Kerikeri Volcanics	Clayey SILT, with some sand; light brown. Stiff; moist; low plasticity.		0.4					
			0.6					132
			0.8					49
	0.9 m - High plasticity		1.0					123
			1.2					39
	Clayey sandy SILT, with trace gravel. Stiff; moist; non-plastic; gravel, fine, rounded.		1.4					
			1.6					UTP
	1.5 m - Inflow, fine gravel becomes minor.		1.8					
	Unable to recover - suction. End Of Hole: 1.60m		2.0					
			2.2					
			2.4					
			2.6					
			2.8					
PHOTO(S)				REMARKS				
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>				

HAND AUGER LOG

HOLE NO.:

HA13

CLIENT:

Waima Topu B Trust

PROJECT:

Geotechnical Investigations

JOB NO.:

18837

SITE LOCATION: State Highway 12, Waima

CO-ORDINATES: 1657167mE, 6074262mN

START DATE: 06/09/2023

ELEVATION: Ground

END DATE: 06/09/2023

LOGGED BY: LF

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)													VANE SHEAR STRENGTH (kPa) Vane: GEO1433				WATER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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					2	4	6	8	10	12	14	16	18	50	100	150	200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

PHOTO(S)



REMARKS

WATER

▼ Standing Water Level

Out flow


◁ In flow



INVESTIGATION TYPE



☒ Hand Auger

☐ Test Pit

Generated with CORE-GS by Geroo - 1 - Hand Auger - RS Standard scale & vane bars - 12/09/2023 3:58:15 pm

<div><div><div>RS</div><div>Eng</div></div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div>		<div>HAND AUGER LOG</div>						<div>HOLE NO.:</div> <div>HA14</div>											
		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>											
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657227mE, 6074233mN</div>		<div>ELEVATION: Ground</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: LF</div>											
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER								
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Clayey SILT, with some sand; brown. Stiff; moist; low plasticity; sand, fine.			<div><div>TS</div><div>TS</div><div>TS</div><div>TS</div></div>															
Kerikeri Volcanics	Clayey SILT, with minor sand; brownish orange. Stiff; moist; low plasticity; sand, fine.		0.2																
			0.4																214+
			0.6																-
			0.8																-
			1.0																0+
	Unable to penetrate inferred basalt boulders End Of Hole: 1.00m		1.2																-
			1.4																
			1.6																
			1.8																
			2.0																
			2.2																
			2.4																
			2.6																
			2.8																
PHOTO(S)				REMARKS															
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>															

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>		HAND AUGER LOG						HOLE NO.: HA15		
CLIENT: Waima Topu B Trust PROJECT: Geotechnical Investigations		JOB NO.: 18837								
SITE LOCATION: State Highway 12, Waima CO-ORDINATES: 1657258mE, 6074221mN		ELEVATION: 56.1m START DATE: 06/09/2023 END DATE: 06/09/2023 LOGGED BY: AT								
UNIT	MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3616				WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS	2 4 6 8 10 12 14 16 18	50	100	150	200	Values
Kerikeri Volcanics	Clayey SILT; orangey brown. Stiff; moist; low plasticity.		0.2	TS						
	UTP End Of Hole: 0.50m		0.4	UTP						UTP
			0.6							
			0.8							
			1.0							
			1.2							
			1.4							
			1.6							
			1.8							
			2.0							
			2.2							
			2.4							
			2.6							
			2.8							
PHOTO(S)					REMARKS					
					<div>WATER ▼ Standing Water Level ▷ Out flow ◁ In flow</div> <div>INVESTIGATION TYPE <input checked="" type="checkbox"/> Hand Auger <input type="checkbox"/> Test Pit</div>					

<div><div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div></div>		<div>HAND AUGER LOG</div>						<div>HOLE NO.:</div> <div>HA16</div>											
		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>											
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1657267mE, 6074207mN</div>		<div>ELEVATION: 57.6m</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>											
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane: GEO3616		WATER								
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.2	TS															
Kerikeri Volcanics	Clayey SILT; brown. Stiff; moist; low plasticity.		0.4																
	0.8 m - Very stiff		0.8																
	UTP End Of Hole: 1.00m		1.0																
			1.2																
			1.4																
			1.6																
			1.8																
			2.0																
			2.2																
			2.4																
			2.6																
			2.8																
PHOTO(S)				REMARKS															
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↵ In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>															



HAND AUGER LOG

HOLE NO.:
HA17

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1657308mE, 6074175mN

ELEVATION: Ground




START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: LF

[illegible]

PHOTO(S)




WATER

 Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

☒ Hand Auger
☐ Test Pit

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<div><div>SITE LOCATION: State Highway 12, Waima</div><div>CO-ORDINATES: 1657335mE, 6074115mN</div></div>		<div><div>ELEVATION: Ground</div><div>START DATE: 06/09/2023</div><div>END DATE: 06/09/2023</div><div>LOGGED BY: LF</div></div>							
UNIT	MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa)		WATER	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS TS TS	2 4 6 8 10 12 14 16 18	Vane: 50 100 150 200 Values			
Kerikeri Volcanics	SILT, with minor clay; whitish grey. Very stiff; dry.		0.2						
			0.4						
	Clayey SILT; brown. Stiff; moist; low plasticity.		0.6						
	Unable to penetrate inferred basalt boulder End Of Hole: 0.80m		0.8						
			1.0						
			1.2						
			1.4						
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
PHOTO(S)				REMARKS					
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>					



HAND AUGER LOG

HOLE NO.:
HA19

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1657371mE, 6074164mN

ELEVATION: Ground




START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: LF

UNIT	MATERIAL DESCRIPTION <small>(See Classification & Symbology sheet for details)</small>	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER <small>(Blows / 0mm)</small>										VANE SHEAR STRENGTH <small>(kPa)</small> Vane: Values				WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.	Kerikeri Volcanics	0.0	TS TS															

PHOTO(S)

















WATER

-  Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>		HAND AUGER LOG					HOLE NO.: HA21	
		CLIENT: Waima Topu B Trust PROJECT: Geotechnical Investigations					JOB NO.: 18837	
SITE LOCATION: State Highway 12, Waima CO-ORDINATES: 1657078mE, 6074312mN		ELEVATION: Ground					START DATE: 06/09/2023 END DATE: 06/09/2023 LOGGED BY: LF	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic							
Alluvium Deposits	Clayey SILT, with trace sand; brown/orange. Firm; wet; low plasticity; sand, fine.		0.2					
			0.4					
	Silty CLAY; light brown, mottled orange. Firm - stiff; moist; high plasticity.		0.6				73	↕
			0.8				43	
			1.0				79	
			1.2				43	
			1.4					
			1.6				82	
			1.8				49	
			2.0				131	
		2.2				46		
	2.2m - White mottled orange.							
	Unable to penetrate inferred basalt boulder End Of Hole: 2.20m							
PHOTO(S)		REMARKS						
		<div>WATER ▼ Standing Water Level ▷ Out flow ↕ In flow</div> <div>INVESTIGATION TYPE <input checked="" type="checkbox"/> Hand Auger <input type="checkbox"/> Test Pit</div>						



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Whangarei 0110

HAND AUGER LOG

HOLE NO.:
HA22

CLIENT: Waima Topu B Trust
PROJECT: Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1657029mE, 6074223mN

ELEVATION: 57.8m

START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: AT

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)											VANE SHEAR STRENGTH (kPa) Vane: GEO3616				Values	WATER
					2	4	6	8	10	12	14	16	18	50	100	150	200				
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS TS																	

PHOTO(S)




REMARKS



WATER

- ▼ Standing Water Level
▷ Out flow
◁ In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit

<div><div>RS Eng Ltd</div><div>09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div></div>		<div>HAND AUGER LOG</div>										<div>HOLE NO.:</div> <div>HA23</div>						
		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>										<div>JOB NO.:</div> <div>18837</div>						
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656260mE, 6073266mN</div> <div>ELEVATION: 60m</div>												<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>						
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm) 2 4 6 8 10 12 14 16 18								VANE SHEAR STRENGTH (kPa) Vane: GEO3616 50 100 150 200 Values		WATER			
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.2	TS														
Kerikeri Volcanics	Clayey SILT; brownish orange. Very stiff; moist; low plasticity.		0.4															
	0.8 m - Some sands		0.8															
	UTP End Of Hole: 1.00m		1.0															
			1.2															
			1.4															
			1.6															
			1.8															
			2.0															
			2.2															
			2.4															
			2.6															
			2.8															
PHOTO(S)				REMARKS														
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>														

<div><div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div></div>		<div>HAND AUGER LOG</div>						<div>HOLE NO.:</div> <div>HA24</div>			
		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>			
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656241mE, 6073223mN</div>		<div>ELEVATION: 82m</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>			
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm) 2 4 6 8 10 12 14 16 18				VANE SHEAR STRENGTH (kPa) Vane: GEO3616 50 100 150 200 Values		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.		0.2	TS							
Kerikeri Volcanics	Clayey SILT; brown. Very stiff; moist; low plasticity.		0.4								
	Completely weathered; reddish brown mottled black and orange; BASALT; extremely weak. Clayey SILT; brown. Very stiff; moist; low plasticity.		0.6								
			0.8								
	UTP End Of Hole: 1.00m		1.0								
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								
			2.2								
			2.4								
			2.6								
			2.8								
PHOTO(S)					REMARKS						
					<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>						

HOLE NO.:
HA25

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656208mE, 6073186mN

ELEVATION: 83.3m




START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: AT

Groundwater Not Encountered








REMARKS



INVESTIGATION TYPE

 Standing Water Level
 Out flow
 In flow

☒ Hand Auger
☐ Test Pit

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<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>																	
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656162mE, 6073136mN</div>		<div>ELEVATION: 83.9m</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: AT</div>																	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane:				WATER						
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.																		
TS	Clayey SILT; brownish orange. Very stiff; moist; low plasticity.		0.2																
UTP	UTP End Of Hole: 0.30m		0.4																
			0.6																
			0.8																
			1.0																
			1.2																
			1.4																
			1.6																
			1.8																
			2.0																
			2.2																
			2.4																
			2.6																
			2.8																
PHOTO(S)					REMARKS														
					<div><div>WATER</div><div><div> Standing Water Level</div><div> Out flow</div><div> In flow</div></div><div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div></div>														



HOLE NO.:
HA27

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656152mE, 6073137mN

ELEVATION: 84.2m

START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: AT




[illegible]

PHOTO(S)



REMARKS

WATER

-  Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit



HOLE NO.:
HA28

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656140mE, 6073130mN

ELEVATION: Ground

START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: AT


Groundwater Not Encountered

PHOTO(S)





REMARKS

WATER

- Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit

 <div>RS Eng Ltd 09 438 3273 office@RSEng.co.nz 2 Seaview Road, Whangarei 0110</div>		HAND AUGER LOG					HOLE NO.: HA29	
CLIENT: Waima Topu B Trust PROJECT: Geotechnical Investigations		JOB NO.: 18837						
SITE LOCATION: State Highway 12, Waima CO-ORDINATES: 1656218mE, 6073070mN		START DATE: 06/09/2023 END DATE: 06/09/2023 LOGGED BY: LF						
UNIT	MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS TS TS	2 4 6 8 10 12 14 16 18	50 100 150 200	Values	
Alluvium Deposits	Clayey SILT; brown/orange. Firm; moist; low plasticity.		0.2					
			0.4					
			0.6				140	
			0.8				82	
			1.0				125	
Pikeri Volcanic	Silty CLAY; light brown, mottled orange. Firm; moist; high plasticity.		1.2				79	
			1.4				85	
	Clayey SILT; brownish orange. Stiff; moist; low plasticity.		1.6				43	
	Unable to penetrate inferred basalt boulder End Of Hole: 1.80m		1.8					
			2.0					
			2.2					
			2.4					
			2.6					
			2.8					
PHOTO(S)				REMARKS				
				<div>WATER ▼ Standing Water Level ▷ Out flow ◁ In flow</div> <div>INVESTIGATION TYPE <input checked="" type="checkbox"/> Hand Auger <input type="checkbox"/> Test Pit</div>				



HOLE NO.:
HA30

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656276mE, 6073122mN

ELEVATION: Ground




UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER	VANE SHEAR STRENGTH					WATER									
					(Blows / 0mm)										(kPa)	Values				
					2	4	6	8	10	12	14	16	18	50	100		150	200		
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.																			
Kerikeri Volcanics	Clayey SILT; brownish orange. Stiff; moist; low plasticity.		0.2																	
	Unable to penetrate inferred basalt boulder End Of Hole: 0.40m		0.4																	
			0.6																	
			0.8																	
			1.0																	
			1.2																	
			1.4																	
			1.6																	
			1.8																	
			2.0																	
			2.2																	
			2.4																	
			2.6																	
			2.8																	

PHOTO(S)



REMARKS

WATER

-  Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit



HOLE NO.:
HA31

CLIENT:	Waima Topu B Trust
PROJECT:	Geotechnical Investigations

JOB NO.:
18837

SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656280mE, 6073130mN

ELEVATION: Ground

START DATE: 06/09/2023
END DATE: 06/09/2023
LOGGED BY: LF




Kerikeri Volcanics

PHOTO(S)





REMARKS

WATER

-  Standing Water Level
 Out flow
 In flow

INVESTIGATION TYPE

- ☒ Hand Auger
☐ Test Pit

<div><div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div></div>		<div>HAND AUGER LOG</div>						<div>HOLE NO.:</div> <div>HA32</div>											
<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>																	
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656325mE, 6073177mN</div>		<div>ELEVATION: Ground</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: LF</div>																	
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane:				WATER						
					2	4	6	8	10	12	14	16	18	50	100	150	200	Values	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS															
Volcan	Clayey SILT; brownish orange. Stiff; moist; low plasticity.		0.2	TS															
	Unable to penetrate inferred basalt boulder End Of Hole: 0.30m		0.4																
			0.6																
			0.8																
			1.0																
			1.2																
			1.4																
			1.6																
			1.8																
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			2.4																
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PHOTO(S)				REMARKS															
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>															



HOLE NO.:
HA33

JOB NO.:
18837


SITE LOCATION: State Highway 12, Waima
CO-ORDINATES: 1656317mE, 6073179mN

ELEVATION: Ground

Groundwater Not Encountered



REMARKS





 Standing Water Level
 Out flow
 In flow

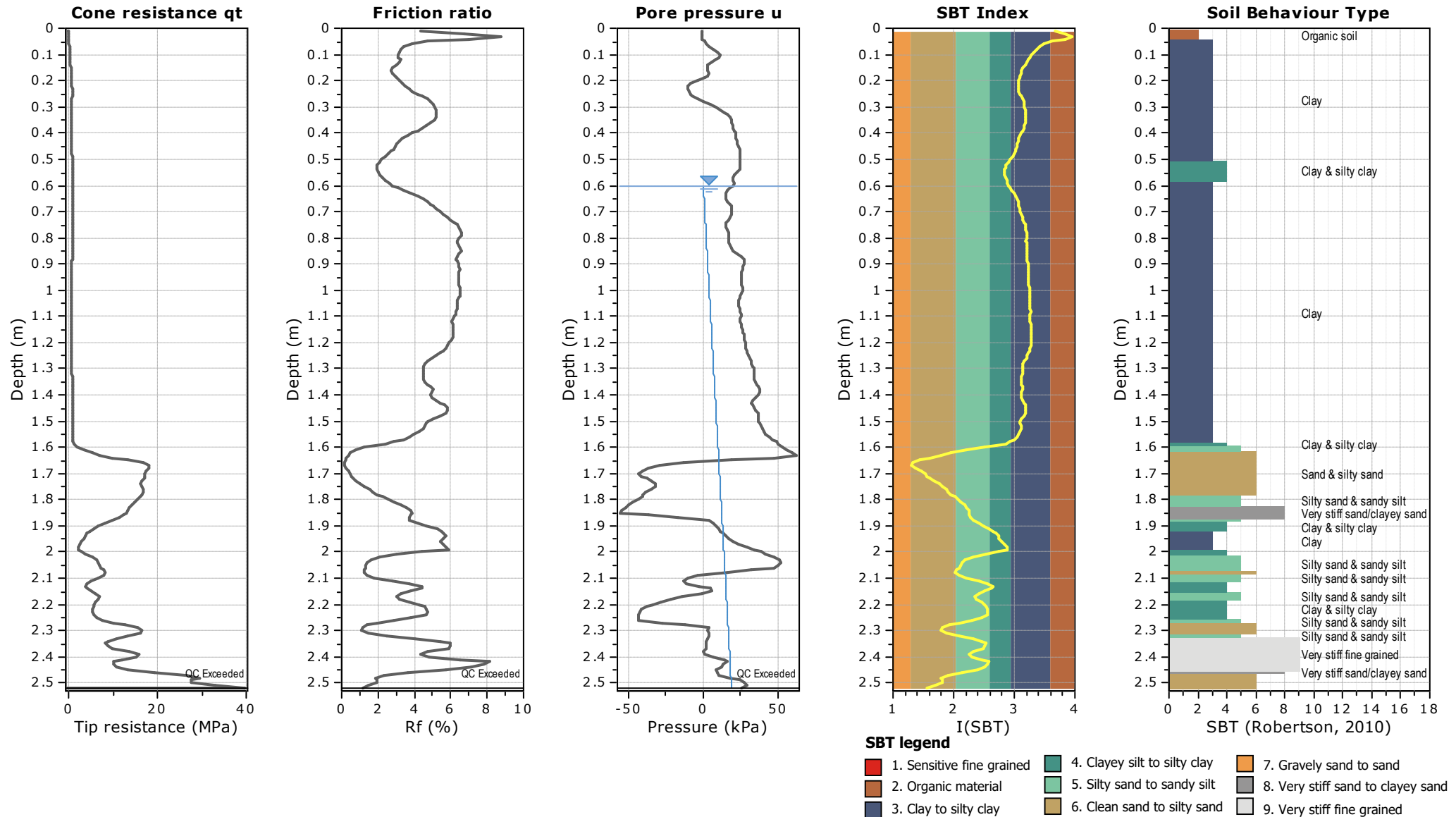
☒ Hand Auger

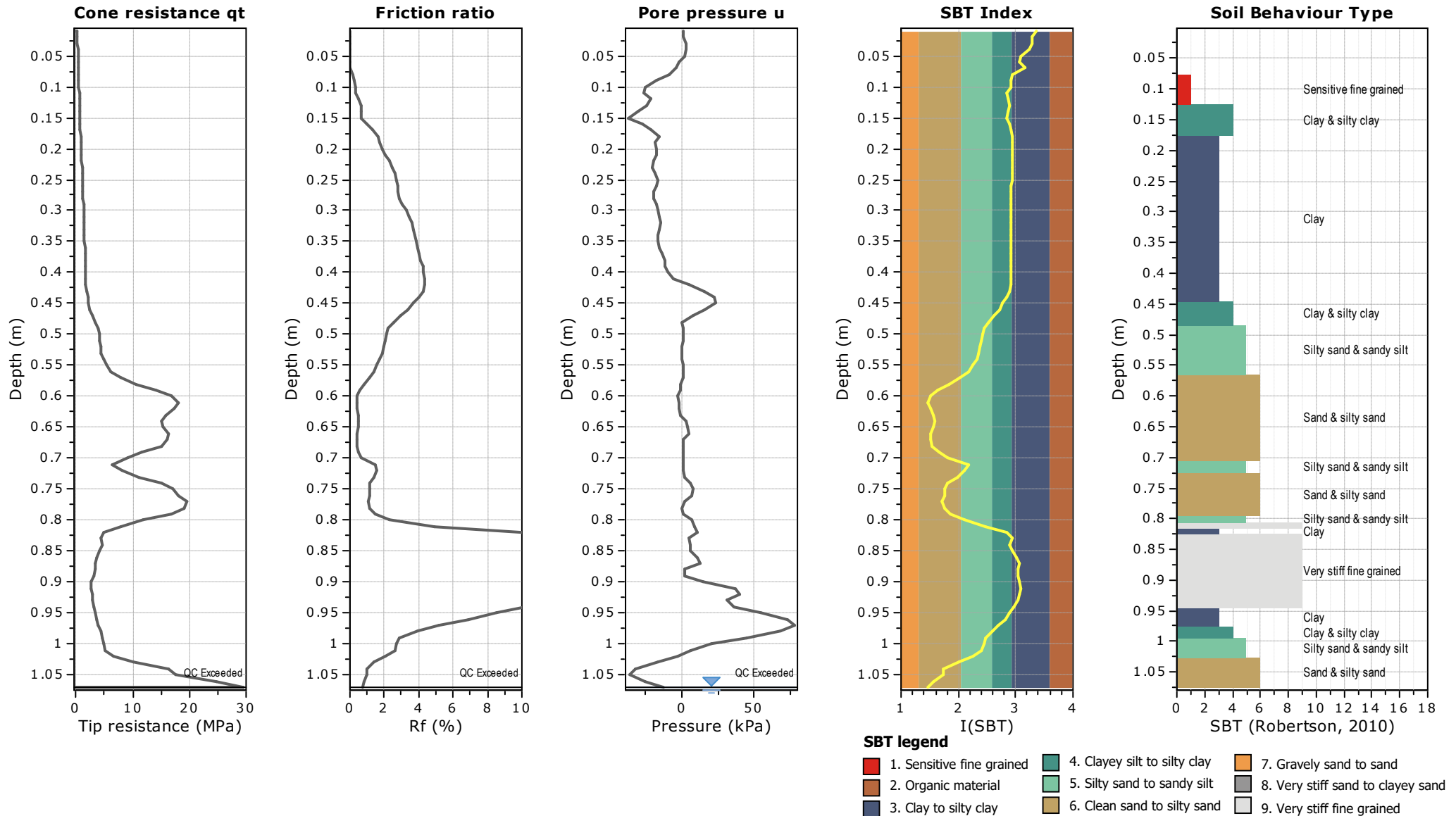
☐ Test Pit

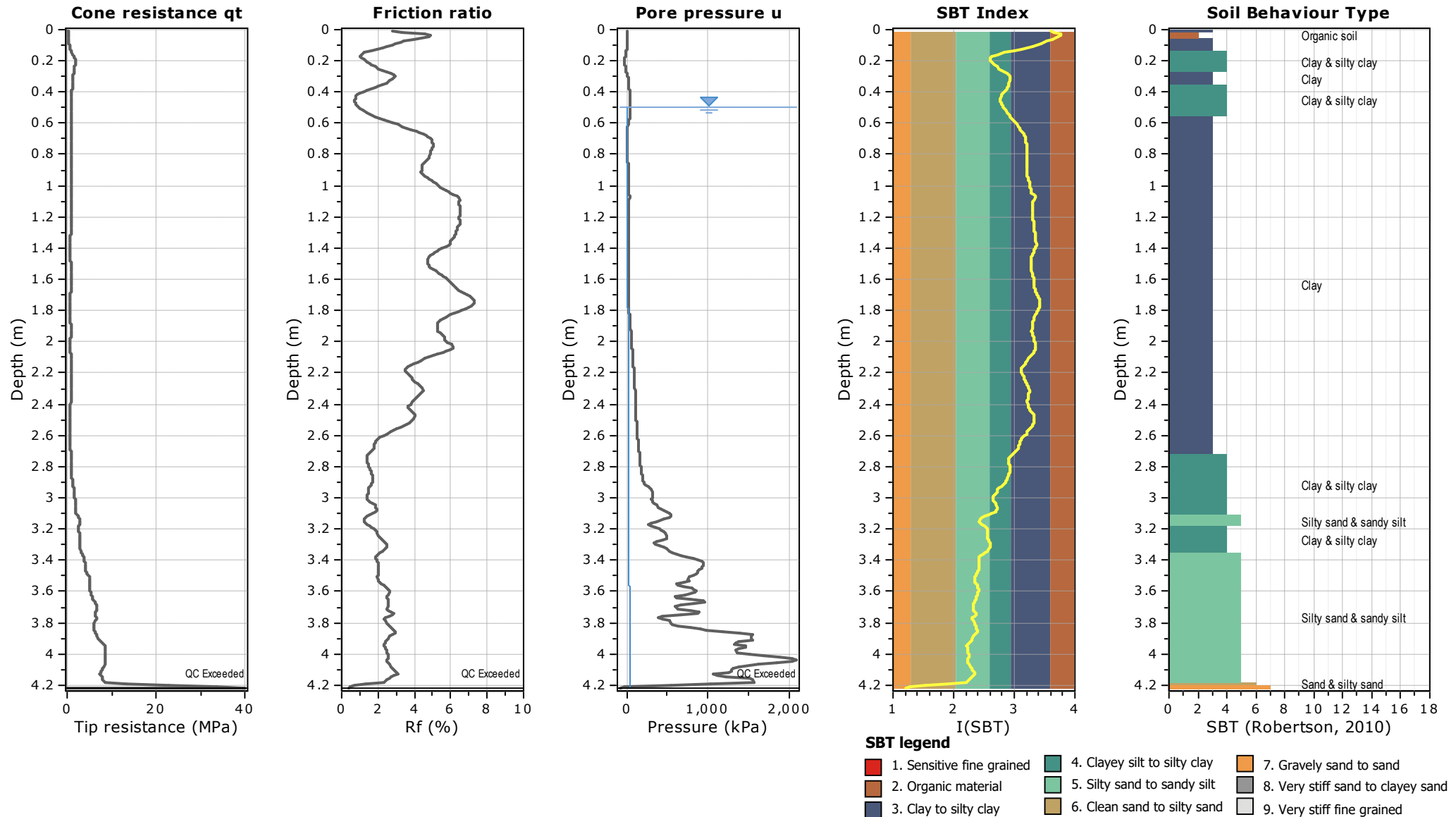
<div><div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div></div>		<div>HAND AUGER LOG</div>						<div>HOLE NO.:</div> <div>HA34</div>												
		<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>						<div>JOB NO.:</div> <div>18837</div>												
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656329mE, 6073185mN</div>		<div>ELEVATION: Ground</div>						<div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: LF</div>												
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)				VANE SHEAR STRENGTH (kPa) Vane: Values				WATER							
TS Silty TOPSOIL; brown. Firm; moist; non-plastic.				TS Silty TOPSOIL; brown. Firm; moist; non-plastic.	2	4	6	8	10	12	14	16	18	50	100	150	200			
Clayey SILT; brownish orange. Stiff; moist; low plasticity.			0.2																	
Unable to penetrate inferred basalt boulder End Of Hole: 0.30m			0.4																	
			0.6																	
			0.8																	
			1.0																	
			1.2																	
			1.4																	
			1.6																	
			1.8																	
			2.0																	
			2.2																	
			2.4																	
			2.6																	
			2.8																	
PHOTO(S)				REMARKS																
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>																

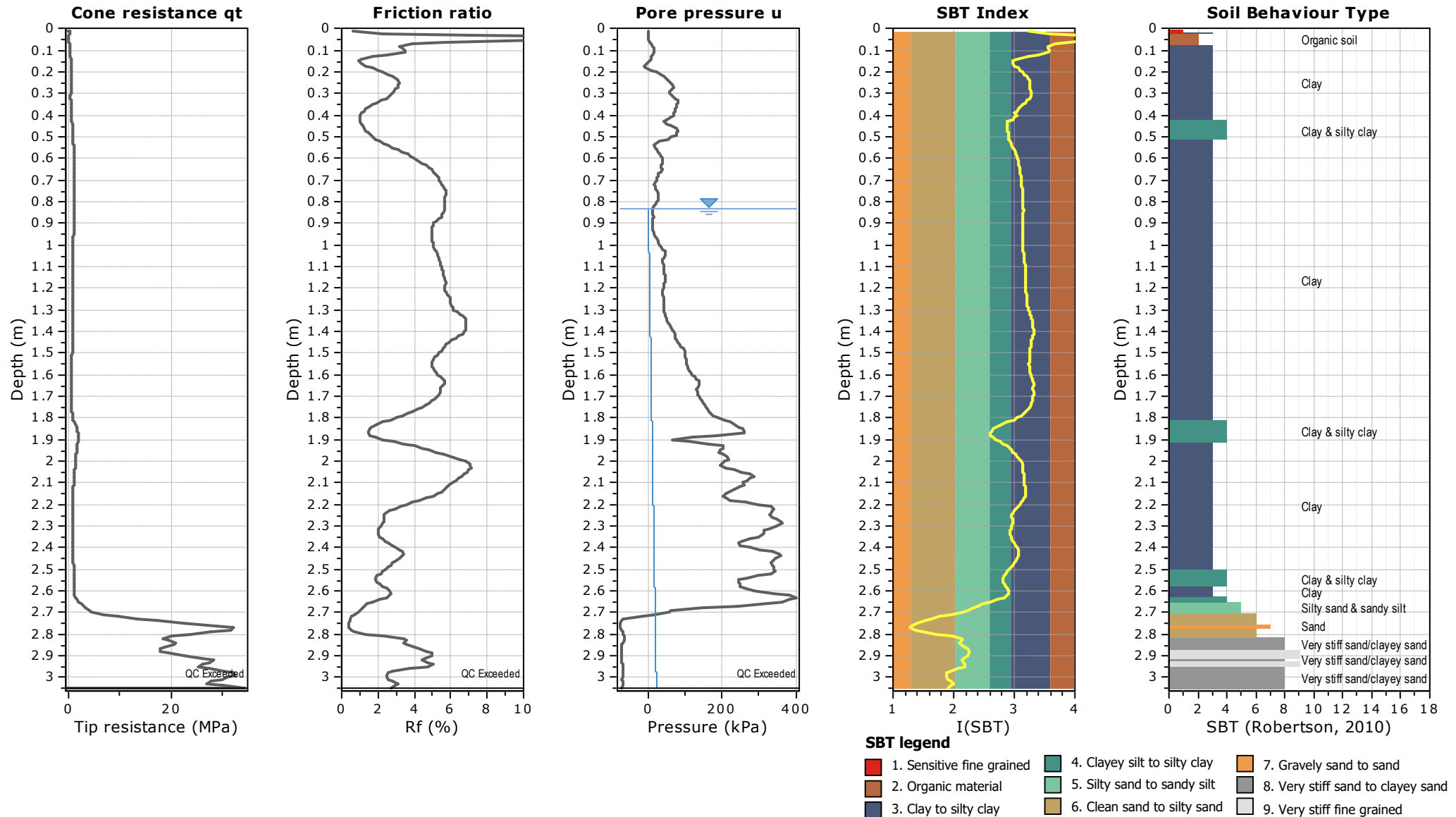
Generated with CORE-GS by Geroo - 1 - Hand Auger - RS Standard scale & vane bars - 12/09/2023 3:59:59 pm

<div><div><div><div>RS Eng Ltd</div><div>09 438 3273</div><div>office@RSEng.co.nz</div><div>2 Seaview Road,</div><div>Whangarei 0110</div></div></div></div>		<div>HAND AUGER LOG</div>					<div>HOLE NO.:</div> <div>HA35</div>		
<div>CLIENT: Waima Topu B Trust</div> <div>PROJECT: Geotechnical Investigations</div>		<div>JOB NO.:</div> <div>18837</div>							
<div>SITE LOCATION: State Highway 12, Waima</div> <div>CO-ORDINATES: 1656317mE, 6073256mN</div>		<div>ELEVATION: Ground</div> <div>START DATE: 06/09/2023</div> <div>END DATE: 06/09/2023</div> <div>LOGGED BY: LF</div>							
UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO1433		WATER	
TS	Silty TOPSOIL; brown. Firm; moist; non-plastic.			TS TS TS	2 4 6 8 10 12 14 16 18	50 100 150 200	Values		
Kerikeri Volcanics	Clayey SILT; brownish orange. Stiff; moist; low plasticity.		0.2					186	Groundwater Not Encountered
			0.4					98	
			0.6						
			0.8						
			1.0						
			1.2						
			1.4						
			1.6						
			1.8						
			2.0						
	2.2								
	2.4								
	2.6								
	2.8								
PHOTO(S)				REMARKS					
				<div><div>WATER</div><div><div>▼ Standing Water Level</div><div>▷ Out flow</div><div>↰ In flow</div></div></div> <div><div>INVESTIGATION TYPE</div><div><div><input checked="" type="checkbox"/> Hand Auger</div><div><input type="checkbox"/> Test Pit</div></div></div>					









ECOLOGICAL IMPACT ASSESSMENT (EcIA)



PROPOSED PAPA KĀINGA DEVELOPMENT WAIMĀ TOPU B (NA52B/52) STATE HIGHWAY 12, WAIMĀ



PO Box 229, KERIKERI
PH 021 151 8315

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This report may be cited as-

BAY ECOLOGICAL CONSULTANCY LTD (20/2/25) ECOLOGICAL IMPACT ASSESSMENT (EcIA) PROPOSED PAPAKĀINGA DEVELOPMENT WAIMĀ TOPU B (NA52B/52) STATE HIGHWAY 12, WAIMĀ

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ECOLOGICAL IMPACT ASSESSMENT (EcIA)

PROPOSED PAPA KĀINGA DEVELOPMENT

WAIMĀ TOPU B (NA52B/52) STATE HIGHWAY 12, WAIMĀ

FEBRUARY 2025



EXECUTIVE SUMMARY

Bay Ecological Consultancy Ltd has been engaged by the Waimā Topu B Trust Executive to undertake an Ecological Impact assessment (EcIA) on portions of Waimā Topu B (NA52B/52), whenua māori, to accompany application for a papakāinga housing project within smaller focus areas of the 688.886ha title. These are located approximately 20km SW of Kaikohe at approx. 59-80masl, adjacent State Highway 12, with a dominant pastoral character dating prior the 1950s.

Two sub areas of the wider block are considered in this reporting:

- **FOCUS AREA 02** – two pasture blocks bisected by State Highway 12; bounded to the west by Whawharu Stream; to the east by extension of the Northern Mataraua forest and separate titles to the north and south. The eastern block is referred to as the Bull Paddock.
- **FOCUS AREA 04** – a pasture block 1.2km further southwest on SH12, bounded to the north by an existing residential unit; the south by Waimā C26A Block; west by pasture and east by SH12.

A desktop review of available ecological context of these and surrounding area in the potential zone of influence (ZOI) was undertaken, primarily from aerial photography; online databases & mapping, to determine priorities for field work and provide insight into possible elements of significance. This included potential *natural inland wetland extent* of and associated *values*¹, as defined in the NPS- FM (2020) and subject to regulations of the *NES-F (2020)*. *Wetland extent* and *values* are primary considerations in avoidance of adverse effects of any development, largely dependant on maintenance of hydrology.

Field work on the 7/02/24 included wetland identification with regard to the MfE Wetland Delineation Protocol (2022) and supporting documents. Topographic survey was then completed in conjunction with Taiao Surveyors Ltd staff (15/02/24) and disseminated to the wider consulting team, enabling a collaborative design process and pre emptive avoidance of effects.

The wetlands are identified within this report as:

- Area 02: A- H
- Area 04: I; J & K

Site photos are provided for illustration.

¹ VALUES (NPS FM 2020 Amendment No.1 (2022) (i) ecosystem health; (ii) indigenous biodiversity; (iii) hydrological function; (iv) Maori freshwater values; (v) amenity values

This review followed structure and content requirements of the EIANZ EcIA Guideline (2018)² as the best practice standard for ecological impact assessment in NZ, specifically the core stages of

- Scoping - desktop & fieldwork evaluation of ecological context of the site and surrounds
- Description
- Evaluation of significance
- Assessment of impacts/ effects and impact management, including any monitoring ongoing requirements

and with regard to non statutory NZ guideline documents

- *Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in the Northland Region (Wildlands 2019)*
- *Department of Conservation guidelines for assessing significant ecological values (Davis et al 2016)*

Reporting provides consideration of significance in regard to Northland Regional Policy Statement *Appendix 5* (2018). The core foundation principles for ecological assessment therein are also directly aligned with the *Appendix 1* criteria of the more recently gazetted *National Policy Statement for Indigenous Biodiversity (2023)*³.

KEY FINDINGS:

- Ecological values within the designated footprint are related to the wetland areas; the bordering receiving tributaries of the Whawharu Stream and relict mature podocarps and pūriri visible from the 1950 aerials but likely present prior. These include a kahikatea stand in mid eastern Survey Area 2.
- There are no kauri in the development areas to invoke consideration of the *Biosecurity (National PA Pest Management Plan) Order 2022*.
- Predicted ecosystem⁴ types are
 - **WF8** Kahikatea pukatea on Autea Clay
 - **WF11** Kauri podocarp broadleaved on Pakatai ClayOnly individual or small clusters of singular species are remnant within the footprint, none with species threat status.
- Closely to the east of the Bull paddock (Area 02) the Northern Mataraua forest tract (PNA Unit #006/002) commences, within the parent parcel. This contains representative *pukatea–taraire–towai* & *kahikatea–towai* forest but does not extend into the development area.
- *Natural inland wetlands* subject to the National Environmental Standards for Freshwater NES – F (2020) have been recognized, according to definitions of the NPS FM (2020) and PNRP (2021), by dominant hydrophytic (OBL, FACW) floral assemblages supported by evidence of persistent site hydrology.
- Site wetlands are diagnostically
 - *ephemeral*
 - *swamp*
- The Rapid Test, as the first strata of wetland delineation, was sufficient to determine wetland presence with dominance typified by obligate (OBL) and facultative wetland (FACW) species forming very obvious *natural inland wetland* communities.

² Roper- Lindsay, J; Fuller, S.A; Hooson, S; Sanders, S.A; Usher, G. T. (2018) Ecological Impact Assessment. EIANZ Guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd Ed.

³ 4/8/2023 *Appendix 1 : Criteria for identifying areas that qualify as significant natural areas (SNAs)*

⁴ https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer

- Abrupt loss of wetland dominance occurs with slight elevation in contour at the edges. Wetlands identified are largely shallow, exhibiting saturation at/ or just below surface level during the site visit (extended dry conditions).
- The prevailing character beyond identified wetland throughout is rough pastoral- kikuyu dominance, strong clumps of *Paspalum dilatatum*; rye; browntop; *Lotus corniculatus*; clovers, & further common FACU / UPL grass and weed species e.g. *Senecio*; *Plantago* and abundant *Daucus*. The intent and extent of occupation of the areas does not allow for ongoing pastoral use of the focus areas during residential occupation. None of the *natural inland wetland* mapped in this reporting would be subject to the pastoral exclusion clause of the *natural inland wetland* definition⁵.
- Primary hydric indicators included saturation and surface water, with supportive indicators of the geomorphic profile and drainage patterns in the landscape.
- Soil indicators included subsurface clay; gleyed (dominantly grey or bluish grey in colour low chroma 5:1) or protruding bedrock aquitards dependant on soil type and weathering; strong brown to dark brown redox segregations of iron and manganese within the soil matrix.
- The primary wetland associations are consistently of a low diversity FACW & OBL short wetland grass - herbaceous association: *Paspalum distichum** (FACW) dominant with varied frequency of *Agrostis stolonifera** (FACW) & localised contribution of *Isachne globosa* (OBL). Frequent co occurrences are *Persicaria** (OBL & FACW spp); *Carex leporina** (FACW); *Cyperus brevifolius** (FACW); *Isolepis prolifera* (OBL); *I. reticularis* (FACW); *Euchiton limosus* (FACW); *Eleocharis acuta* (OBL); *Ludwigia palustris*(OBL); *Mysotis laxa subsp. caespitosa**(OBL); *Ranunculus flammula* *(FACW); *Callitriche stagnalis*(OBL); *Epilobium chionanthum* (FACW) & *Juncus* spp (FACW) present are common generalists - *Juncus effusus**; *J. edgariae* and *J. articulatus**. Associations vary with depth of saturation/standing water.
- The composition is typically associated with disturbed areas and pasture, largely exotic and resistant to grazing due to growth form and/ or palatability. These innocuous grasses and perennials persist throughout the drier months even if the water level drops annually beneath basal contour within the footprint.
- The wetlands contain no rare/ threatened flora within or closely adjacent. A shift in species composition that retains a *natural inland wetland* composition is considered not to be a loss of *value* or *extent* and a less than minor level of effects. This may occur with variance in stormwater inputs, although (FACW) dominant species *Paspalum distichum*, *Ludwigia*, *Persicaria*; *Juncus* are adapted to tolerate an increase, rafting or persisting through the current ephemeral inundation cycle in response to rainfall.
- The occurrence of common FAC exotics *Holcus lanatus**; *Ranunculus repens** & *Lotus pedunculatus** on micro hummocks or deep pugging within the wetlands is not sufficient in frequency to alter the evident wetland diagnosis.
- All wetlands are within immediate catchments of the Whawharu Stream or tributaries. Wetland K Area 04 is fed by hydrology contiguous with that on Lot 1 DP 149414 that crosses under SH1.
- Wetlands as current are visible from aerial photography dating to the 1950s showing prolonged periodicity and occupancy. Occupying former *natural inland wetland*, ditches within Wetland F Area 02 cannot be considered a *deliberately constructed water body*⁶ or *artificial watercourses*⁷ or subject to any exclusion in the *natural inland wetland* definition(c)⁸.

⁵ (e) a wetland that:

(i) is within an area of pasture used for grazing; and(ii) has vegetation cover comprising more than 50% exotic pasture species (as identified in the National List of Exotic Pasture Species using the Pasture Exclusion Assessment Methodology (see clause 1.8)(iii) the wetland is a location of a habitat of a threatened species identified under clause 3.8 of this National Policy Statement, in which case the exclusion in (e) does not apply

⁶ PRPN (2021) Definitions | Whakamāramatanga CONSTRUCTED WETLAND A wetland developed deliberately by artificial means or constructed on a site where: 1) a wetland has not occurred naturally previously, or 2) a wetland has been previously constructed legally.

- Wetland E associations vary with depth of standing water. The furthest western extent includes species typical of C & D, with further diversity of OBL species & *Juncus*.
- The majority of all focus areas is mapped *TEC Level I- Acutely Threatened*, referenced in regional significance assessment *RPS (2018) Appendix 5: 2(a)1*.
- Five minute bird counts during fieldwork determined habitat suitable for insectivorous generalists sighted e.g. kingfisher; fantail; sparrow utilizing wetlands as part of wider territorial economics. This is likely true for any kiwi that may be present. Other than pukeko and paradise ducks no wetland birds were sighted, they are typically reticent even in response to playback.
- Detailed design of stormwater engineering was not available at the time of reporting, with broad recommendation⁹ made to discharge to existing drains; flow paths, with surface water returned to sheet flow using dispersal trenches or similar devices.
- Inputs to the wetlands may represent a discharge within 10 or 100m, potentially non complying under *NES- F Reg 54* change in range of water levels or hydrological function. However, species composition throughout is common, largely exotic and has a level of tolerance pre adapted to periodic increase. No loss of function, extent or values is expected with the proviso inputs are diffuse and in a manner that prevents sediment, permanent ponding, scouring or erosion as expected best practice.
- Fish survey was outside the scope of works. Predicted species mapping implies redefined bully and shortfin eel at minimum in adjacent waterways in the absence of downstream fish passage obstruction. While the majority of the site wetlands are considered too shallow to serve as habitat, tuna may utilize site wetlands if they become hydrologically connected under high rainfall or to traverse pasture. Controls on inputs as above are considered sufficient to avoid adverse effects on species and habitat. This also includes invertebrate communities adapted to require the reliable wet ecosystem niches of the wetlands for at least part of their lifecycle, flagshipped by the OBL & FACW plant composition.
- After stock exclusion the wetlands are likely to increase in cover and biodiversity, including as heightened functional habitat.

RECOMMENDATIONS

- Buffer planting to 10m¹⁰ is embedded in the proposal design to provide joint functional purpose of riparian setback; habitat, aquatic function (attenuation; shade; sediment control; bank stabilization) and amenity. We recommend a staged Revegetation, Pest & Weed Management Plan be stipulated as a condition of consent, containing the specifics of the proposed design in terms of
 - timing in respect to construction;
 - species and numbers,
 - fencing and
 - covalent pest and weed control to protect the developing vegetation and developing habitat provision.
- Pest and weed control will also mitigate a typic scenario of increased weed and pest ingress into the PNA adjoining intensified residential occupation.

⁷ PNRP (2021) *B Definitions | Whakamāramatanga ARTIFICIAL WATERCOURSE : A man-made channel constructed in or over land for carrying water and includes an irrigation canal, roadside drains and water tables, water supply race, canal for the supply of water for electricity power generation and farm drainage canals. It does not include a channel constructed in or along the path of any historical or existing river, stream or natural wetland.*

⁸ NPS – FM (2020 Amendment 8th December 2022) *Natural inland wetland* is NOT ... (c) a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body;

⁹ RS Eng Ltd (30/1/25) Civil Suitability Report No. 18837 for Waimā Topu B Trust Executive

¹⁰ NIWA (2000) Review of Information on riparian buffer widths necessary to support sustainable vegetation and meet aquatic functions TP350 Auckland Regional Council

- Planting within 10m of wetland species will be locally appropriate and indigenous as per *REG 55 NES- F (2020)* to create a natural ecosystem pattern and to avoid potential adverse effect of loss of values.
- We recommended the riparian buffers are fenced bordering the EUAs as an effective visual demarcation to avoid inadvertent ingress and damage over time. As stock exclusion will no longer be required an appropriate design may take the form of driven posts with as little as 2 wires in the majority of areas. Continued grazing to the rear of all stages will necessitate stockproof fencing at these boundaries.
- Stage 3 requires a new entrance to Area 4 and installation of a culvert crossing in the Whawharu Creek (NZSEG# 1013452). It is recommended a Fish Management Plan (FMP) is provided to minimize the physical risk to native freshwater fish during works in the waterway. Replacement of the existing culvert crossing (*other infrastructure*¹¹) in the Stage 2 Area 02 Bull Paddock will not require a FMP/ salvage under dry conditions as it is bare clay substrate with no flow.
- Dogs and cats are to be controlled via the Trusts standard lease instrument to avoid intensification of pets adjacent the PNA and allow the buffers to provide functional habitat as they develop.
- To mitigate effects on the nightscape from the intensification of housing on the PNA periphery and developing buffers we recommend standard amenity and where design includes no street lights; hooded outdoor lighting; no blue spectrum and no directional lighting of the buffers/ PNA.
- We recommend an ecologist or kiwi dog run through directly prior to earthworks if pasture is allowed to become rank in the interim.
- We recommend visual demarcation of the wetlands and designation of earthworks envelopes for contractors as staging progresses to avoid common accidental incursion and damage.

In respect of recommendations, it is unlikely there will be adverse impact including loss of *extent or values of natural inland wetland*, significant species or habitat from the proposal. Instead, gross ecological benefit and amenity value will be instigated, maintaining the continuity of natural processes and systems of the local ecosystems, including catchment water quality protection and habitat connectivity throughout the wider landscape, aligned with aspirations of the site's TEC Level I designation. This allows the development to proceed with a *Very Low (EIANZ) or less than minor* impact.

¹¹ NES-F (2020) **Other infrastructure** means infrastructure, other than specified infrastructure, that was lawfully established before, and in place at, the close of 2 September 2020 subject to NES-F REG 46

INTRODUCTION

The subject property (Waimā Topu B; NA52B/52) is located approx. 20km southwest of Kaikohe, in the Hokianga Ecological District. The majority of the areas has been in exotic pastoral use throughout the available historic aerial record, on flat to gently rolling contour, 50-80 masl. It is now the subject of a proposed papakāinga development on whenua māori. Restricted portions of the much larger 688.886 ha extent have been the designated Focus Areas 02 & 04, adjacent State Highway 12, Waimā.

Seventeen exclusive use areas (EUAs) for residential occupation have been designated within Areas 02 & 04. These have been pre-emptively located on easier accessible contour, serviced by shared access spines to minimise fragmentation and earthworks. The development will be implemented in 3 stages.

The typology of the EUAs will be determined at the time of development within the staged evolution of the proposal, refined to specific residential requirements at the time. It is proposed to manage overall design parameters through conditions of consent, for example limits on maximum gross floor area and site coverage, encompassing a range of design configurations suitable for example to family occupancy or adjoined individual/ couple units.

FIGURE 1: SITE LOCATION

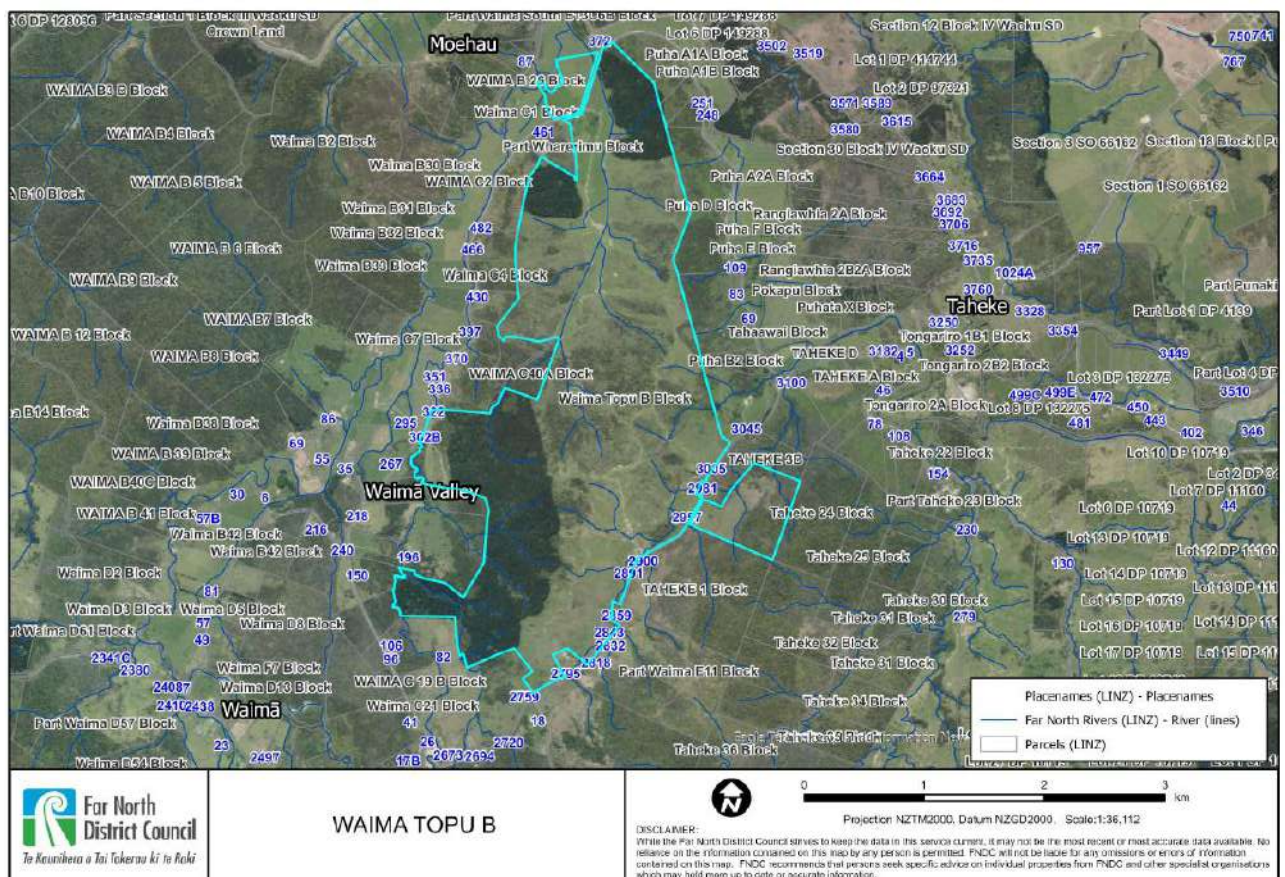
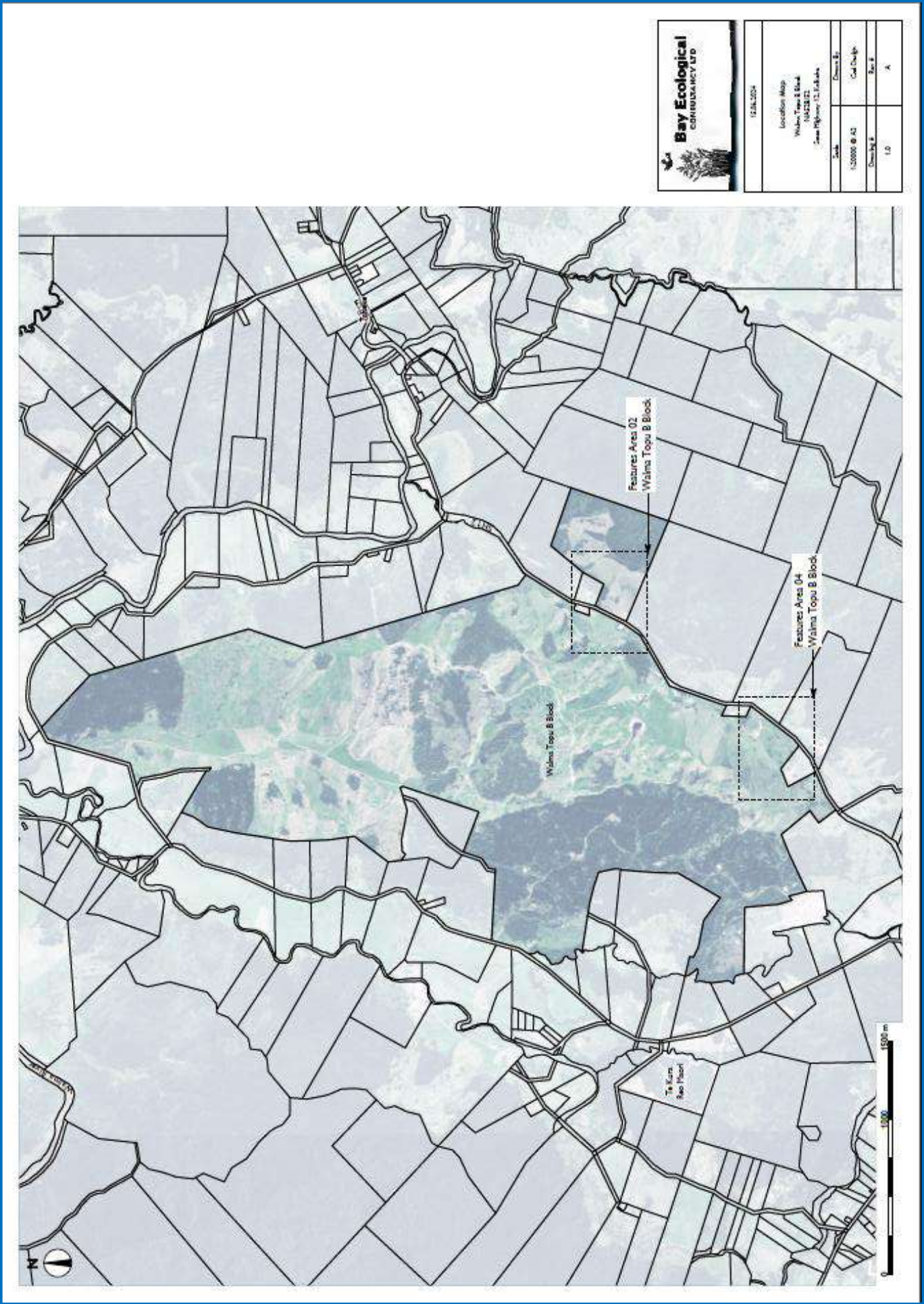


FIG 2: FOCUS AREAS 02 & 04 BROAD LOCATION



Summary of the staged proposal is provided in reference to the schemes following (FIGS 3 & 4).

STAGE 1 AREA 02:

- Stage 1 encompasses nine EUAs identified as Sites 00-08 Area 02
- Site 00 contains an existing whare relocated from the neighbouring property at 2981 State Highway 12. New whare will be constructed within five exclusive use areas: two west of State Highway 12 (Sites 01 and 02) and three east of State Highway 12 (Sites 03, 04, and 05).
- The remaining three EUAs (Sites 06, 07, and 08) will be left vacant for future design.
- Two new vehicle crossings on SH 12—positioned directly opposite each other—will be constructed to service the respective sides of the site. The shared access for Sites 00 to 02 and the shared access for Sites 03 – 08 up to the turning circle near the mature Kahikatea stand will be developed during Stage 1.
- Site 00 will be connected to the new shared access, and the current vehicle access to the exclusive use area will be decommissioned.
- Sites 01 – 05 will be serviced by way of onsite wastewater, potable water and stormwater management infrastructure established at the time of whare construction. Onsite wastewater, potable water and stormwater management servicing for sites 06 - 08 will be established as whare is constructed within each site
- Riparian planting around the wetland in this Stage will be implemented prior to occupation of whare within Site 03.

STAGE 2 BULL PADDOCK AREA 02:

- 4 exclusive use areas included within Stage 2 (Sites 09 to 12).
- The proposal seeks to enable future development of whare incrementally within these sites. Onsite wastewater, potable water and stormwater management infrastructure will be provided within each exclusive use area at time of construction of whare
- A shared accessway and associated stormwater management will be extended from the end of the Stage 1 to service Sites 09 - 12, including the construction of a culvert over the existing stream.
- Riparian planting around the wetlands in within Stage 2 will be established prior to the occupation of whare within Site 09.

STAGE 3:

- Area 4 6 EUAs (Sites 13 to 17).
- the existing whare to the north of the EUAs will retain its current access. A new vehicle crossing on SH 12 will be established to serve five new exclusive use areas . Construction of a new shared accessway, stormwater management and stream culvert will occur at this stage. Onsite wastewater, potable water and stormwater management infrastructure will be provided within each exclusive use area at time of construction of whare
- Riparian planting around the wetland within Stage 3 will be completed prior to the occupation of whare within Sites 13 – 17.

FIG 3: CONFIGURATION AREA 2 STAGE 1 & 2

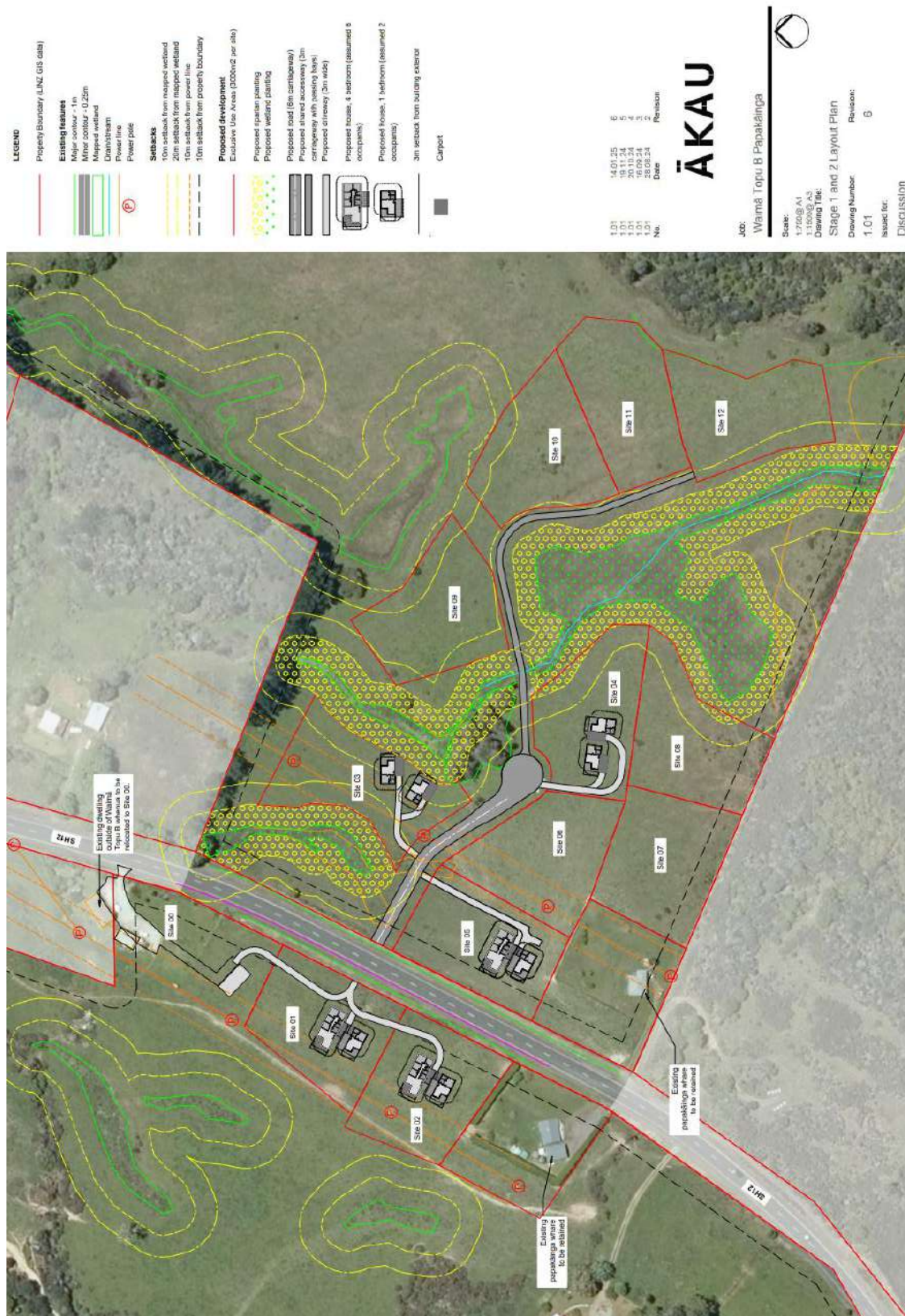


FIG 4: CONFIGURATION AREA 4 STAGE 3



SITE CONTEXT

The following site context is a combination of desktop review and site visit, including detail of the immediate surrounding landscape.

TABLE 1: MAPPED SITE SUMMARY

DESCRIPTION	WAIMĀ TOPU B (NA52B/52)
ADMINISTRATION	WAIMĀ TOPU B TRUST
FNDP OPERATIVE ZONE	RURAL PRODUCTION
TOTAL AREA	688.886 ha approx.
ECOLOGICAL DISTRICT	HOKIANGA
COVER FOCUS AREAS 02 & 04	<ul style="list-style-type: none"> EXOTIC GRASS/ PASTURE WETLAND - SWAMP; SHALLOW WATER NO BUILT FORM
RIVERS ¹²	<ul style="list-style-type: none"> TRIBUTARIES OF THE WHAWHARU (TO THE TAHEKE RIVER) AT BOUNDARIES AREA 02 NZ SEGMENTS West of SH12 :1013115 western boundary C4 type 2nd order; 1013249 A1 type 1st order southern boundary East of SH12 Northern & eastern boundary 1st order A1 AREA 04 NZ SEGMENTS 1013432 A1 type 1st order
SOIL TYPE ¹³	<ul style="list-style-type: none"> Pakatai Clay(PC) Autea Clay (AEe)
POTENTIAL ECOSYSTEM ¹⁴	<ul style="list-style-type: none"> WF8: Kahikatea pukatea on AEe soil WF11 Kauri podocarp broadleaved on PC soil Remnant individual trees only kahikatea tōtara & pūriri
TEC CLASSIFICATION ¹⁵	<ul style="list-style-type: none"> CLASS 1 : Acutely Threatened (<10% indigenous cover remains)
MAPPED SNA;NORTHLAND BIODIVERSITY RANKING - TERRESTRIAL TOP 30 SITES; RANKED RIVERS; KNOWN WETLANDS; RANKED WETLANDS	<ul style="list-style-type: none"> NONE MAPPED IN FOCUS AREAS PNA #006/002 in eastern extent of Area2
RARE ECOSYSTEMS ¹⁶	<ul style="list-style-type: none"> WETLANDS; EMPHEMERAL WETLANDS
KIWI DENSITY (DoC 2018)	<ul style="list-style-type: none"> PRESENT

Key sources of the desktop review included:

- Retrolens aerial photography www.retrolens.co.nz
- <https://data.linz.govt.nz/>
- Connin; Holland & Miller (2004) Natural Areas of Hokianga Ecological District Reconnaissance Survey Report for the PNA Programme. DoC, Whangarei
- Forester & Townsend (2004) Threatened plants of the Northland Conservancy
- Johnson & Gerbeaux (2004) Wetland types in NZ. DoC, Wellington
- LRIS portal <https://lris.scinfo.org.nz/>
- NRC Local Mapping & supporting documents – Leathwick (2018); Singers (2018)
- TEC Classification <https://ourenvironment.scinfo.org.nz/>
- Wildlands Consultants (2011) Ranking of top Wetlands in the Northland Region Stage 4 - Rankings for 304 Wetlands Wildlands Contract Report No. 2489 for the Northland Regional Council
- Wildlands Consultants (2012) Report on Wetland Guidelines for the Northland Region Contract Report 2952

¹² LINZ 2022 NZ River Centrelines <https://data.linz.govt.nz/layer/50327-nz-river-centrelines-topo-150k/>

¹³ <https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=fd6bac88893049e1beae97c3467408a9>

¹⁴ https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer/0

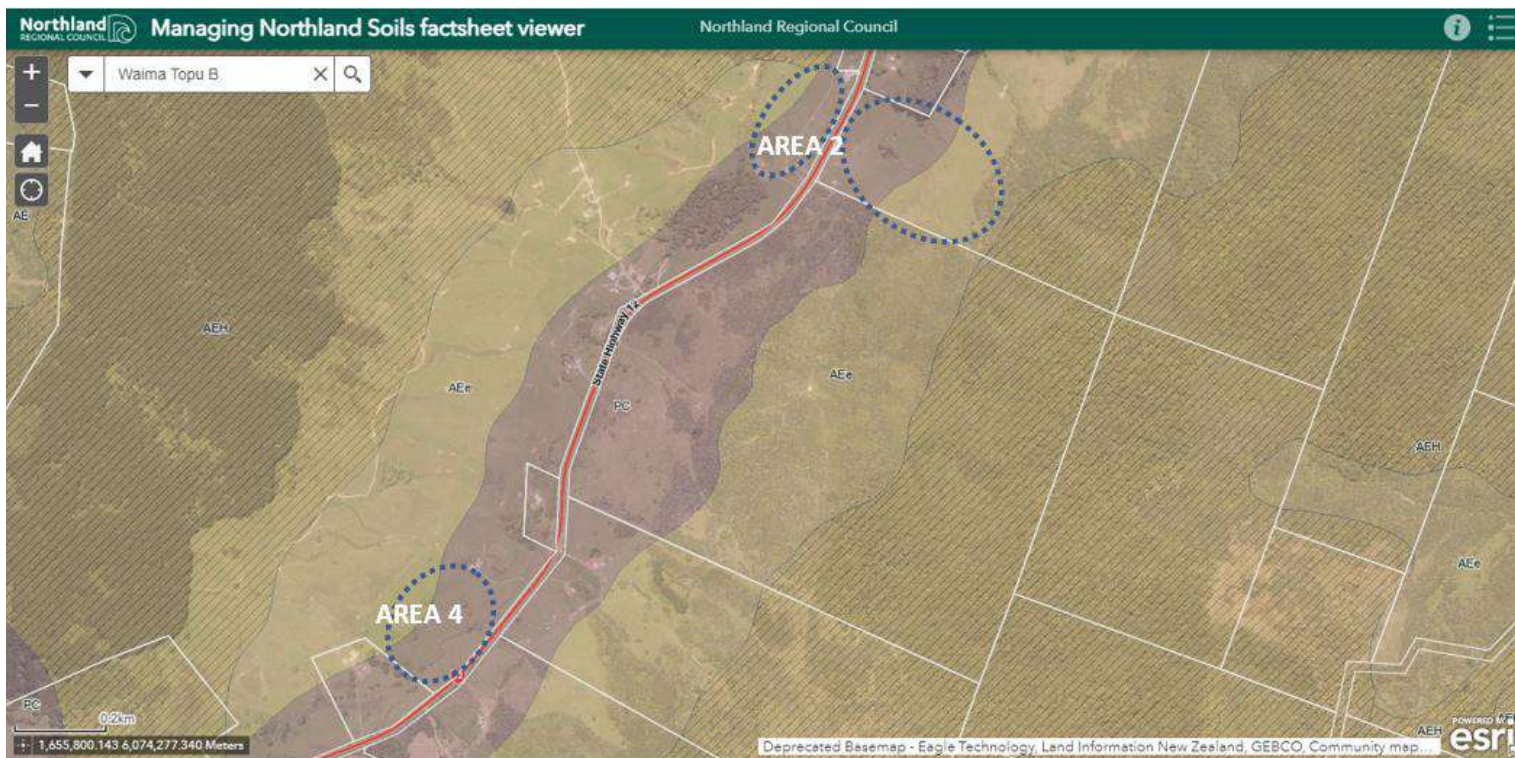
¹⁵ https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Habitats/lenz_tec

¹⁶ Williams et al (2007) New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework *New Zealand Journal of Ecology* 31(2): 119-128

SOILS & PREDICTED ECOSYSTEM TYPE

Underlying soil patterns provide an indication wetland likelihood e.g. poor permeability or podzolisation. Broad scale geology changes across a site may also promote the eruption of hydrological sources. Soil types infer an historic associated cover, which is a relevant reference for any revegetation or amenity planting. Site soils are mapped throughout¹⁷ along State Highway 12 as *Pakatai Clay* with a transition to *Autea Clay* as the focus areas slope gently to the rear.

FIG 5: NRC SOIL MAPPING



¹⁷ <https://iris.scinfo.org.nz/layer/48066-nzlri-soil/>

TABLE 2: MAPPED SOIL TYPE

SOIL TYPE NZRLI	SOIL TYPE FSL	DESCRIPTORS	PREDICTED FOREST TYPE ¹⁸
PAKATAI CLAY (PC)	TYPIC OXIDIC GRANULAR (NXT)	<p>Terrace soil of Tangihua volcanics alluvium of the Kohumaru suite Found on terraces and alluvial fans that are generally above flood level and no longer being replenished by sediment in floodwater Typic Oxidic Granular (NXT) low fertility, acidic, stickiness and plasticity after heavy rainfall Imperfectly drained The extension of plant roots in subsoils is commonly limited by either high penetration resistance, periods of perching or aluminium toxicity. Some plants may be susceptible to aluminium toxicity of the diagnostic cutanoxidic B horizon - strongly weathered, plastic clay, with high available aluminium 25 cm or more from the mineral soil surface. Reserves of phosphorus, potassium and magnesium are naturally low, additionally phosphorus fixation may be high, unavailable to plants</p>	<p>WF11 Kauri Podocarp broadleaved forest <i>Kauri, podocarp, broadleaved forest with occasional rimu, miro, kahikatea, kauri, taraire, tawa, tōwai, kohekohe, pūriri and rewarewa.</i> <i>Composition strongly related to topography and localized moisture, variable between gullies, hill-slopes and ridges Drivers of composition are fertility, drainage and altitude</i> <i>Altitude variants - taraire and kohekohe more abundant at lower altitudes, and tawa and tōwai more common at higher altitudes.</i> <i>Broadleaved species in gullies</i> <i>Commonly a secondary derivative of kauri forest</i> <i>Rainfall 1000–2500mm.</i> It is absent in the production orientated focus paddocks</p>
AUTEA CLAY (AEe)	TYPIC ORTHIC GLEY (GOT)	<p>Young sandstone- mudstone complex of the <i>Omanaia</i> suite Topsoils have relatively high levels of organic matter and some are peaty. <i>Imperfectly to poorly drained</i> Occur on relatively stable land surfaces in sites affected by groundwater, Ponding of water and pugging damage by stock common Prone to tunnel and gully erosion on slopes Nitrogen requirements are likely to be higher than for associated well drained soils, a consideration for any amenity or revegetation scheme.</p>	<p>WF8 Kahikatea pukatea forest <i>Podocarp, broadleaved forest of abundant kahikatea, occasional to abundant pukatea, Swamp maire occurs in areas with a high water table</i> <i>tawa, māhoe, tītoki on areas of drier ground</i> <i>taraire and kohekohe also occur on drier ground and locally rimu, tawa</i> <i>Kiekie, whēki and supplejack are often abundant, creating a dense structure and sub-canopy.</i> <i>Characteristic forest-floor species include mapere; parataniwha and kiokio. As per historic aerials this forest type has long been absent in the focus areas save scattered remnant kahikatea.</i> The only remaining representation within the development areas are scattered individual trees kahikatea; pūriri, totara.</p>

On a regional scale WF8 type has been reduced to <10% of its original extent by clearance in arable lowland areas; selective removal of kahikatea and native hardwoods and by lowered water tables as a result of land drainage, allowing invasion or replacement by indigenous species more suited to drier habitats. In many areas, clearance has resulted in a character shift to sedge/ rush dominated wetland as remnant in the absence of regeneration; competition and shading. Good examples meet regional significance rarity assessment criteria¹⁹.

¹⁸ Singers & Rogers (2014) A classification of New Zealand's terrestrial ecosystems. Science for Conservation Series 325

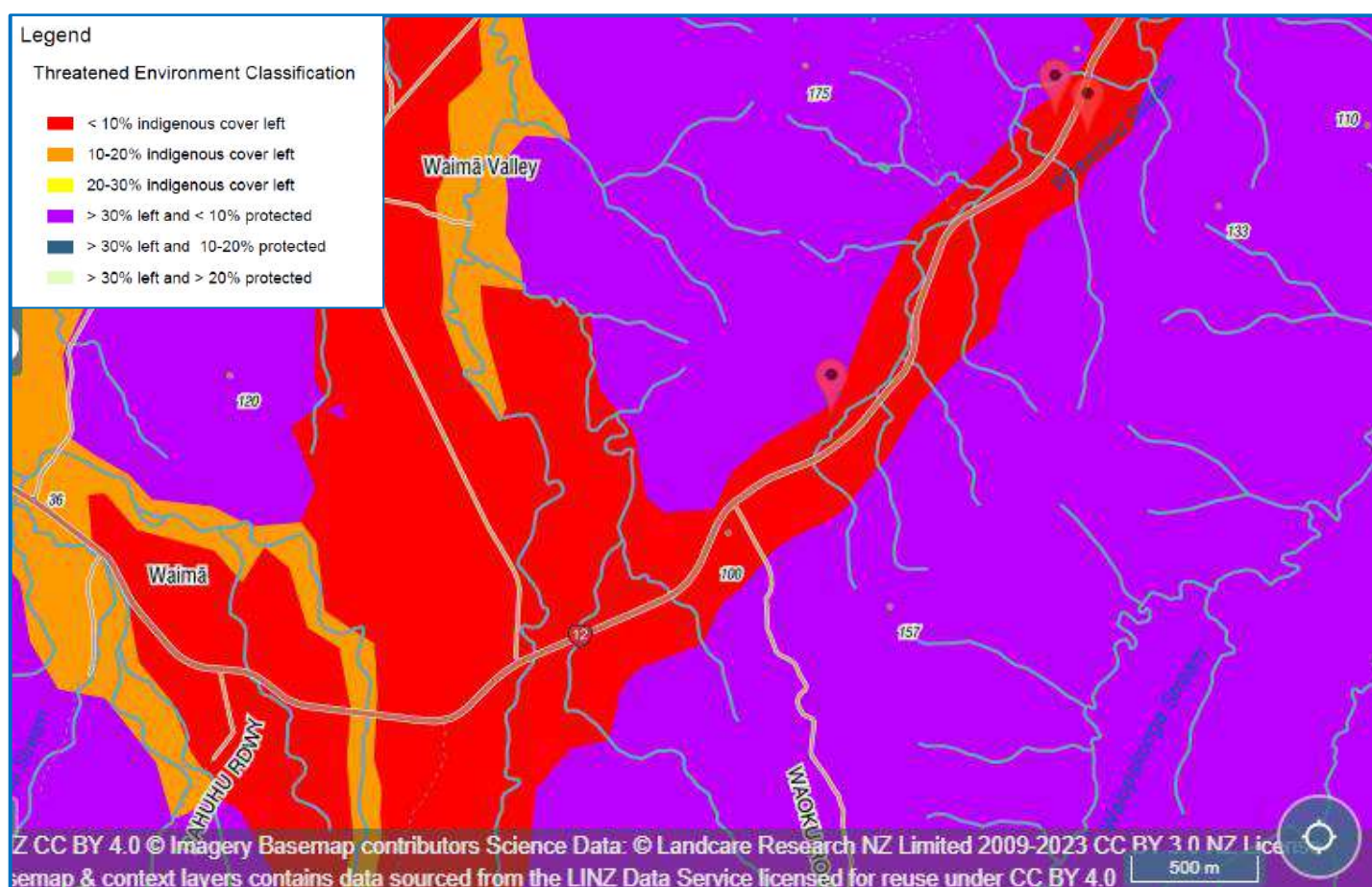
¹⁹ 27 Northland Regional Policy Statement 2018 Appendix 5:2C & D

VALUES MAPPING

There is no NRC Biodiversity Ranking²⁰ or PNAs²¹ mapping within the focus areas.

They are largely encompassed by TEC mapping²² as *Level I Acutely Threatened (<10% indigenous cover remains)*, which has been incorporated into national and regional policy²³ to address biodiversity protection on private land. The TEC mapping layer is most appropriately applied to help identify priorities for formal protection against clearance and/or incompatible land-uses, and/or to restore lost species, linkages and buffers. Any remaining indigenous vegetation on Level 1 sites is considered significant and a priority for formal protection, linkage and buffering, including wetland.

FIG 6: TEC CLASSIFICATION



²⁰ https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer

²¹ [https://services5.arcgis.com/H4FlrMy6xTBd6Ywx/arcgis/rest/services/Protected_Natural_Areas_\(DOC_2016\)/FeatureServer](https://services5.arcgis.com/H4FlrMy6xTBd6Ywx/arcgis/rest/services/Protected_Natural_Areas_(DOC_2016)/FeatureServer)

²² Threatened Environment Classification (2012) Landcare Research Manaaki Whenua. Based on Land Environments New Zealand (LENZ), classes of the 4th Land Cover Database (LCDB4, based on 2012 satellite imagery) and the protected areas network (version 2012, reflecting areas legally protected for the purpose of natural heritage protection). Combination of components of *Land Environments New Zealand Level VI*; *Land Cover Database 4 (2012)*; *Protected Areas Network (2012)*. Classifications - *Chronically Threatened (10-20% Indigenous Cover remains)*; *At Risk (20-30%) Indigenous Cover Remains*; *Critically Underprotected (>30% cover, <10% protected)*; *Underprotected (>30% Indigenous cover remains, 10-20% protected)*; *Better Protected (>30 indigenous cover, >20% protected)*

²³ National Policy Statement for Indigenous Biodiversity 2023; Northland Regional Policy Statement 2018 Appendix 5:2(a)i

FIG 7: FEATURES AREA 02

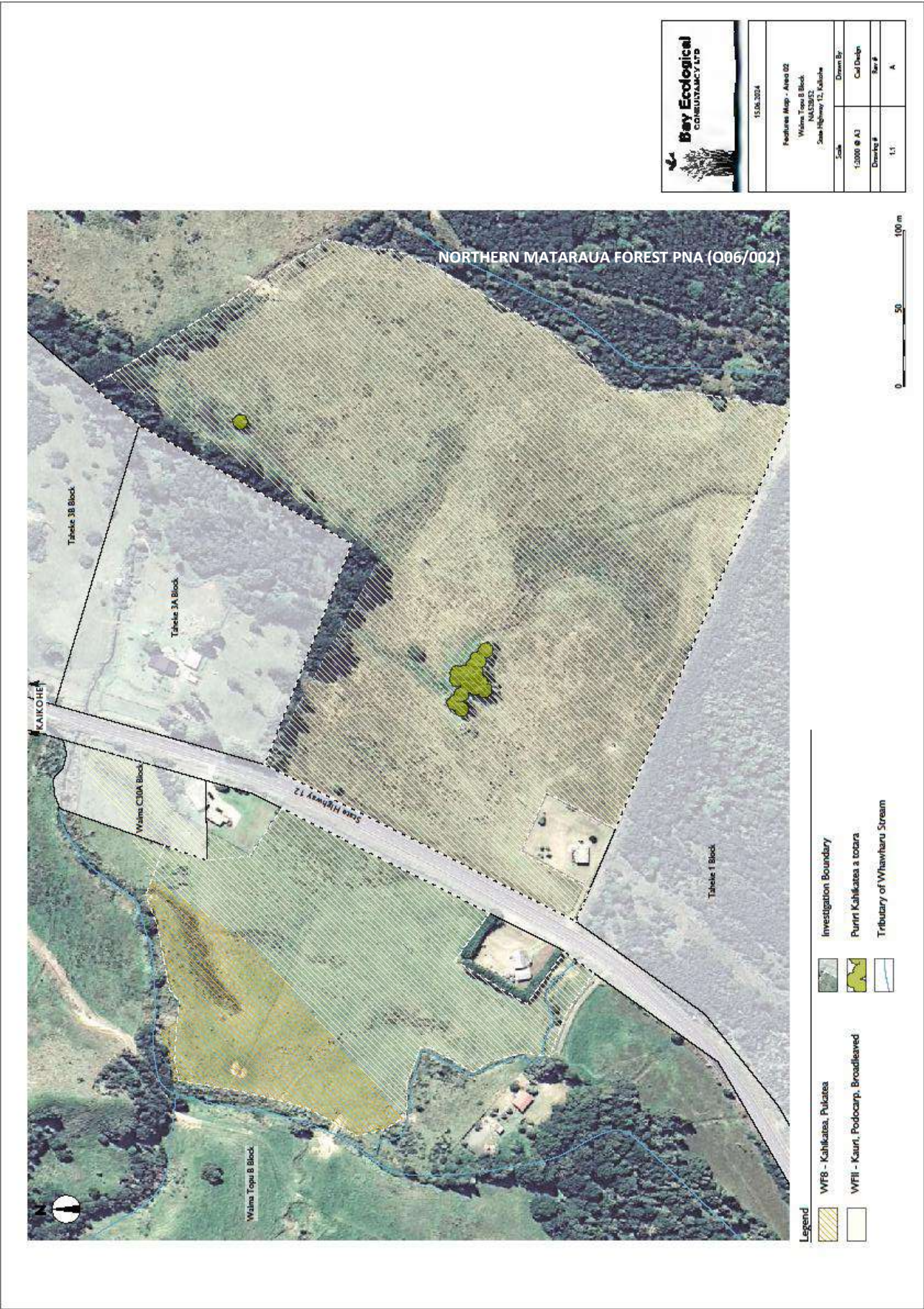
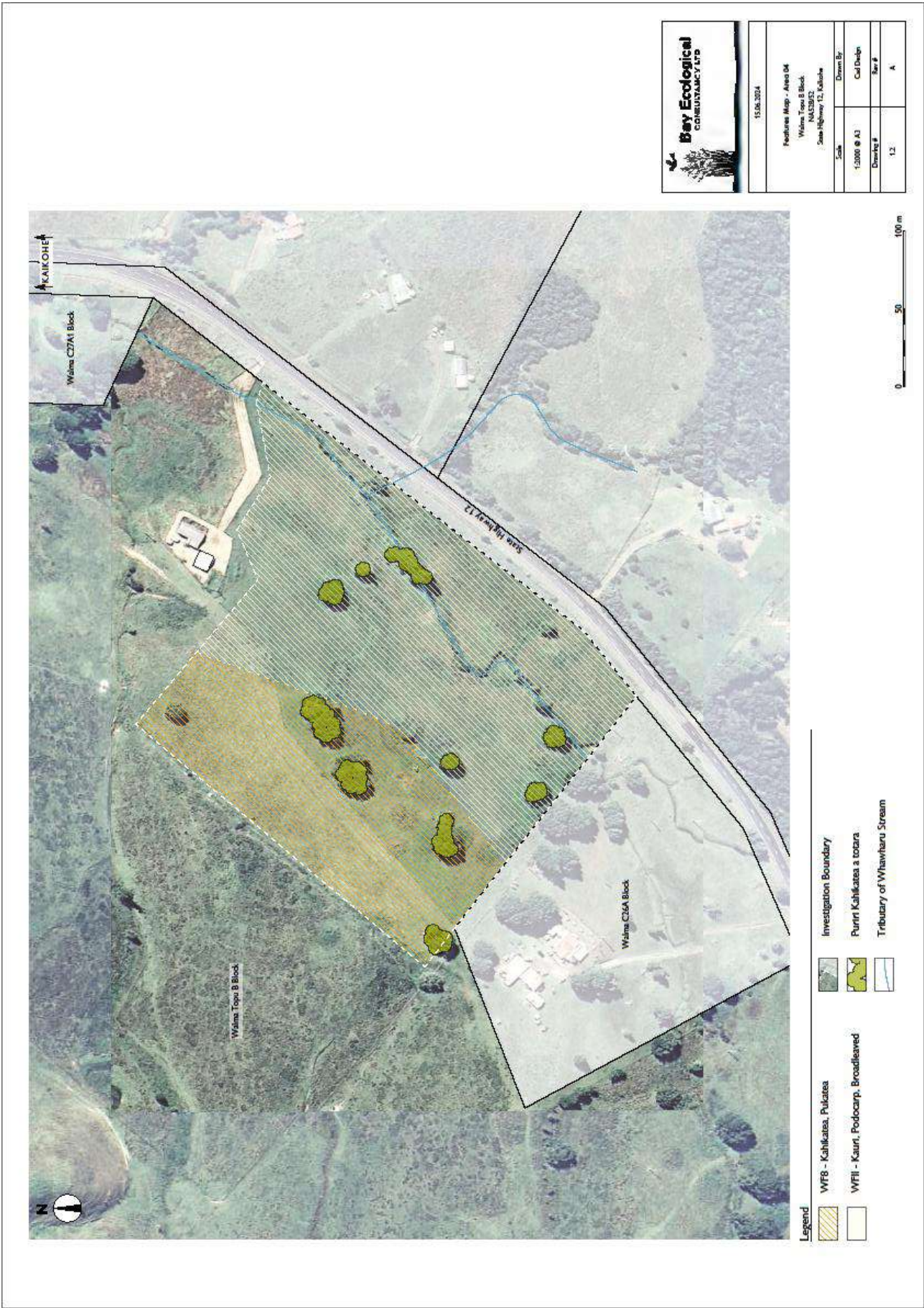


FIG 8: LOCAL FEATURES AREA 04

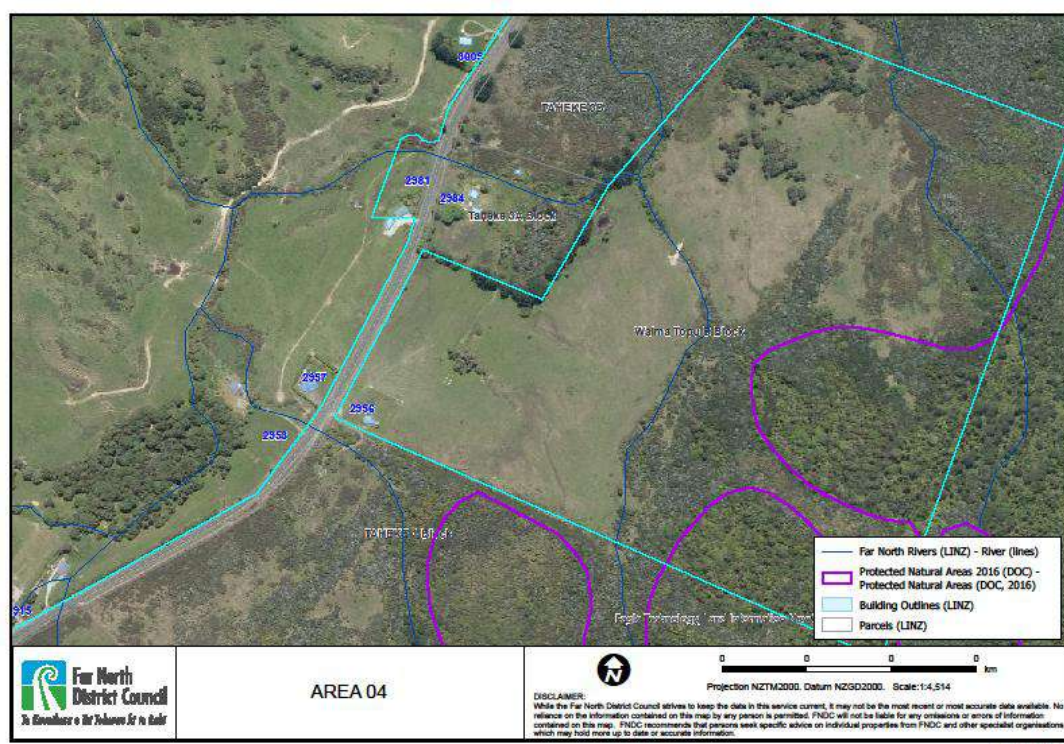


The Northern Mataraua Forest PNA (O06/002)²⁴ is closely adjacent eastern focus Area 02 the Buill Paddock.

Values are given in the accompanying documentation as:

- A large extension of the Waipoua–Waimā –Mataraua Forest tract, lying within the Hokianga Ecological District.
- Water and soil protection in the catchment
- Forest types reflect the mid to low altitudes, in contrast to the generally upper altitude forest tract:
 - a) Pukatea–taraire–towai forest on hillslope
 - b) Kahikatea–towai forest on hillslope
 - c) Manuka shrubland on hillslope
- More modified, but linked by secondary forest and shrubland to the main tract.
- Within type (a) frequent rewarewa, pūriri and emergent northern rata occur. Rimu, tawa and nikau are occasional. Representative site (only occurrence in ED)
- Within type (b) frequent pukatea, pūriri and occasional northern rata, rimu and taraire occur. Representative site

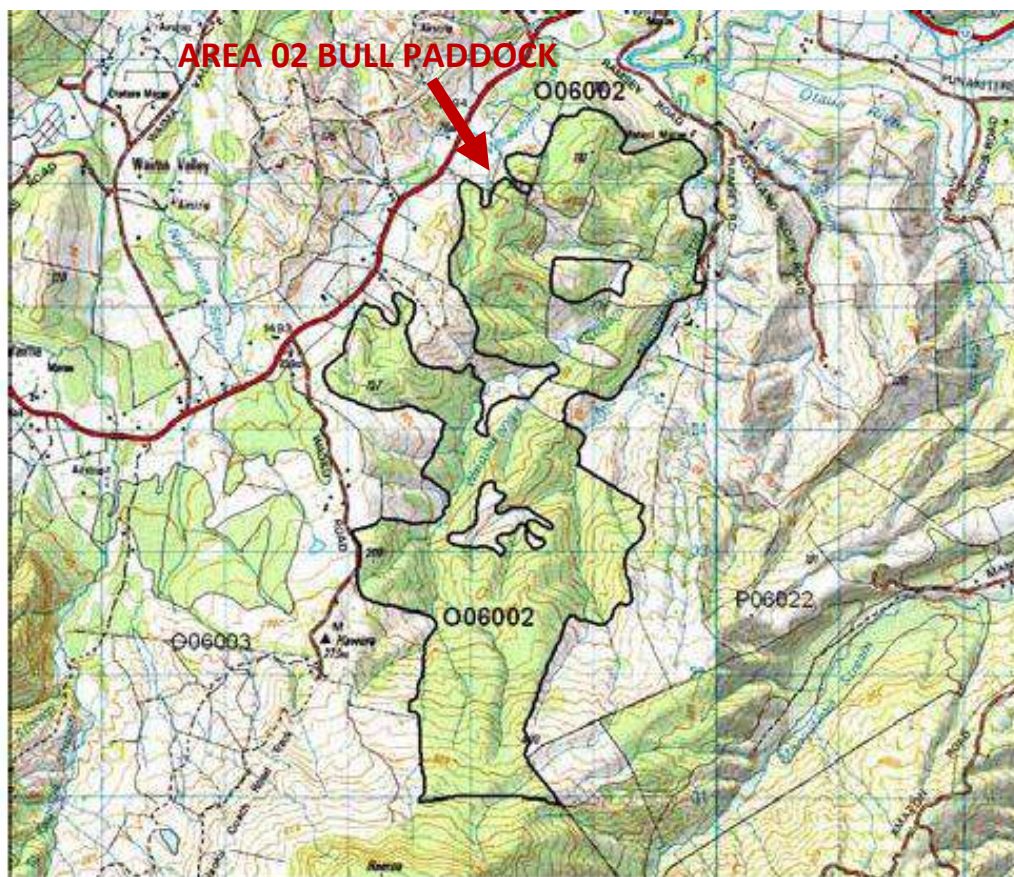
FIG 9: NORTHERN MATARAU Forest PNA (O06/002) SITE INTERACTION



adjacent residential development should be assessed. It is currently not fenced along its entire boundary with the Bull paddock pasture.

There is a nearby record²⁵ for the rare *Brachyglottis myrianthos*²⁶ (*At Risk – Relict*) a small sparse shrub inhabiting shaded streams of the Northland.

FIG 10: WIDER NORTHERN MATARAU FOREST PNA (O06/002)



Northern Matarau Forest O06/002

Each grid is 1000m x 1000m.
and = 100 ha.

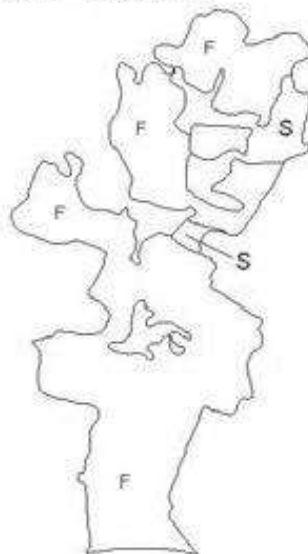
S = shrubland

F = forest

W = wetland

E = estuarine

D = duneland



²⁵ Auckland War Museum Herbarium 2017

²⁶ <https://www.nzpcn.org.nz/flora/species/brachyglottis-myrianthos/>

WETLAND

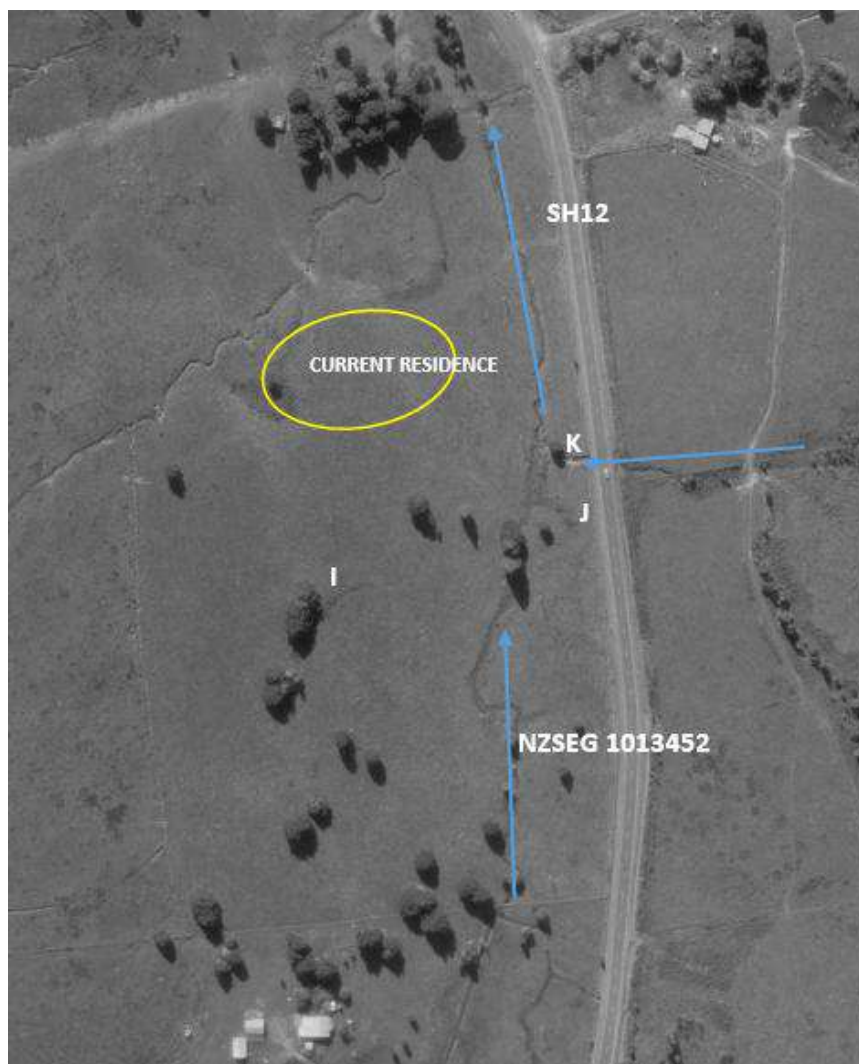
HISTORIC AERIAL REVIEW

Review of available aerial photography preceded fieldwork to determine historic location and subsequent persistence of any site hydrology/ wetland. Areas are labelled as per nomenclature in the topo surveys *FIGS 17 & 18*.

KEY FINDINGS

- Wetlands visible throughout review demonstrating long term occupancy and periodicity.
- Wetland A 1987 has a shallow drainage ditch downslope toward the stream (still visible today)
- Remnant trees are visible to the 1950s
- 1953 Area 2 Wetland H is difficult to discern in taller cover, some potentially induced after clearance and the Pond dug.

FIG 11: RETROLENS 1987²⁷ AREA 04



²⁷ All Retrolens aerals sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0

FIG 12: AREA 02 1987



FIG 13: AREA 04 1977

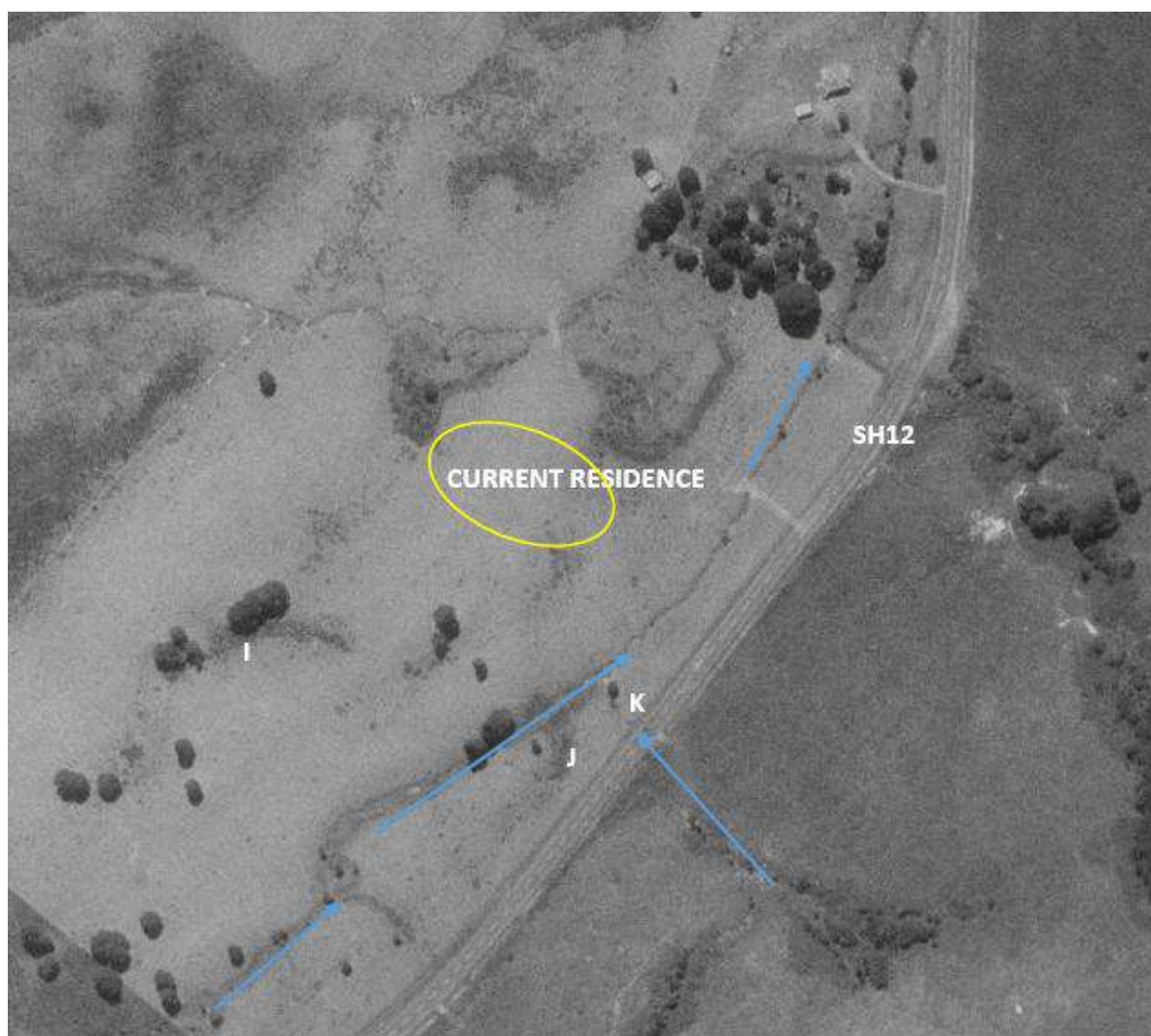


FIG 14: AREA 02 1977

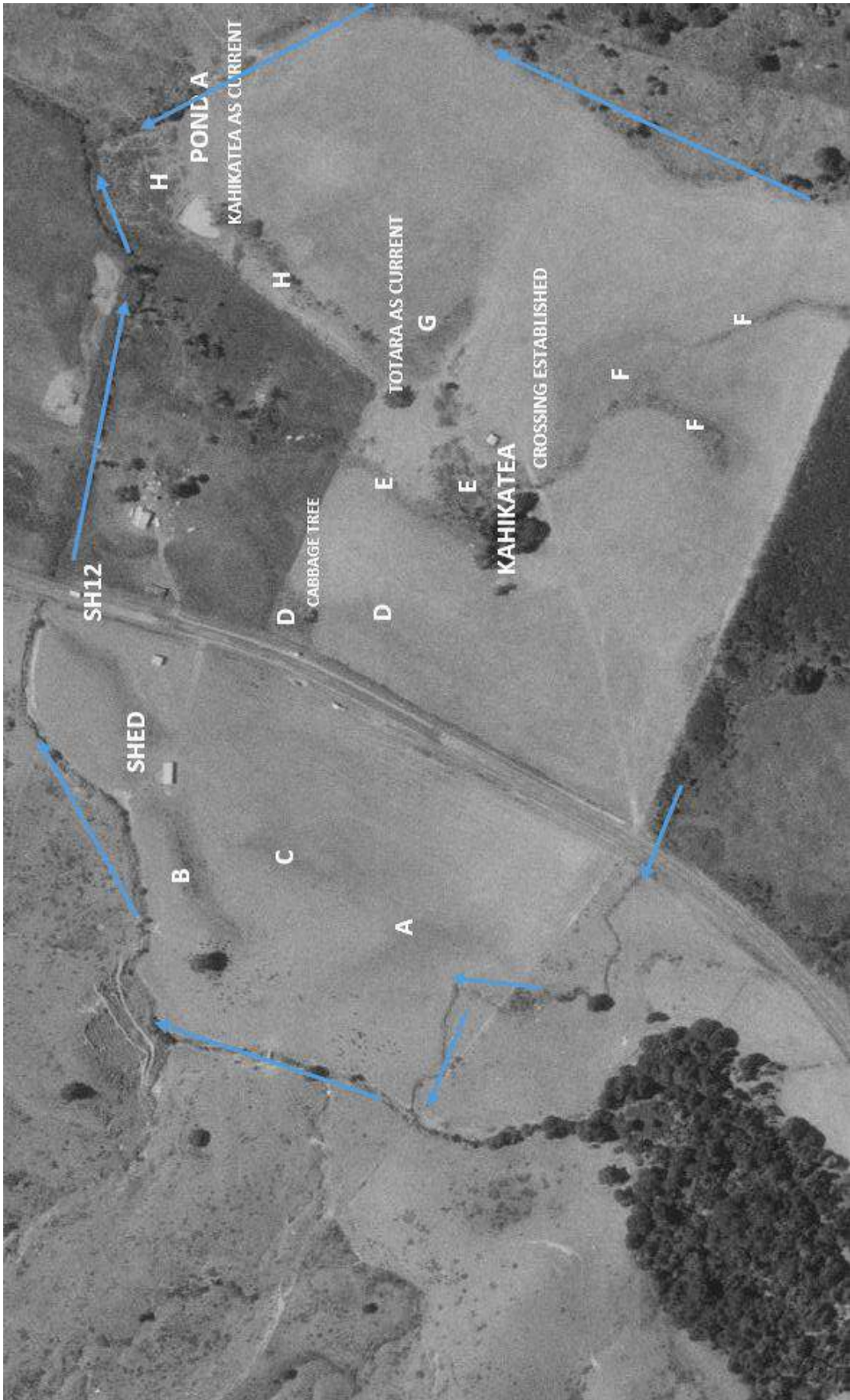


FIG 15: AREA 02 1953



FIG 16: AREA 04 1953



SITE VISIT

Site investigation has been undertaken specifically with regard to the presence or otherwise of *natural inland wetland*, as defined in the National Policy Statement for Freshwater Management (NPS -FM2020) and subject to the protective regulations within the National Environmental Standards for Freshwater (NES-F 2020). There is no previously mapped *known wetland*²⁸ or ranked wetland²⁹ on the parent parcel. We are not aware of any previous reporting on site wetland.

The definition of **wetland** is given in the Resource Management Act (1991):

Wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals adapted to wet conditions.

Plants adapted to live in wetland conditions as above are defined in three categories –

- **OBL**: Obligate. Almost always is a hydrophyte, rarely in uplands (estimated probability >99% occurrence in wetlands)
- **FACW**: Facultative Wetland. Usually is a hydrophyte but occasionally found in uplands (estimated probability 67–99% occurrence in wetlands)
- **FAC**: Facultative. Commonly occurs as either a hydrophyte or non-hydrophyte (estimated probability 34–66% occurrence in wetlands)

(Clarkson, B. et al 2021)

Identification and dominance of these species in vegetation forms the basis for diagnosis as wetland and has been incorporated into the NPS –FM (2020). To this end, both exotic and native species have been categorised by NZ experts in supporting documentation.

The NPS – FM (2020) & accompanying regulations of the NPS- F (2020) have recently been amended³⁰, incorporating a new definition of *natural inland wetland* as subject to the *NES F (2020)* as below, providing exclusions of some classes of wetland as per the broader RMA definition:

Natural inland wetland means a wetland (as defined in the Act) that is not:

- (a) in the coastal marine area; or
- (b) a deliberately constructed wetland, other than a wetland constructed to offset impacts on, or to restore, an existing or former natural inland wetland; or
- (c) a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body; or
- (d) a geothermal wetland; or
- (e) a wetland that:
 - (i) is within an area of pasture used for grazing; **and**
 - (ii) has vegetation cover comprising more than 50% exotic pasture species (as identified in the National List of Exotic Pasture Species using the Pasture Exclusion Assessment Methodology (see clause 1.8); **unless**
 - (iii) the wetland is a location of a habitat of a threatened species identified under clause 3.8 of this National Policy Statement, in which case the exclusion in (e) does not apply

²⁸ NRC BIODIVERSITY WETLANDS <https://localmaps.nrc.govt.nz/localmapviewer/?map=55bdd943767a493587323fc025b1335c>

²⁹ Wildlands (2011) RANKING OF TOP WETLANDS IN THE NORTHLAND REGION STAGE 4 - RANKINGS FOR 304 WETLANDS Contract Report No. 2489

³⁰ 8th December 2022 NPS; 5th December NES effective 5 Jan 2023

Under these updates, Regulation (e) (i) & (ii) only apply while a site is in active pastoral use, and not once its purpose changes³¹. The planning application is for anticipated residential purpose with EUA singularly insufficient for continued pastoral use, also evident onsite in pasture quality and bedrock protrusion.

*Exotic pasture species*³² as per definition do not include common wetland/ wet pasture grasses *Glyceria*; *Paspalum distichum*^{*33} (FACW), *Isachne globosa* (OBL); *Alopecurus geniculatus* (FACW) and *Agrostis stolonifera*^{*} (FACW) or unpalatable exotics such as *Ranunculus repens* (FAC).

Visual vegetation survey (7/02/24) was undertaken to characterize the site associations for wetland presence with regard to the MfE Wetland Delineation Protocol (2022) and supporting documents:

- *A vegetation tool for wetland delineation in New Zealand* (Clarkson et al 2021)
- *Hydric soils – a field identification guide* (Fraser et al 2018)
- *Wetland delineation hydrology tool for Aotearoa New Zealand*. (MfE 2021)
- *Wetlands types in New Zealand* (Johnson & Gerbeaux 2004)

This included possible *extent* of any potential *natural inland wetland* and associated *values*³⁴, as defined in the NPS- FM (2020) and subject to regulations of the NES-F (2020). *Wetland extent* and *values* are primary considerations in avoidance of adverse effects of any development, largely dependant on maintenance of hydrology.

The Rapid Test, as the first strata of wetland delineation, was sufficient to determine wetland presence with dominance typified by obligate (OBL) and facultative wetland (FACW) species in saturated ground forming very obvious *natural inland wetland* communities.

Primary hydric indicators included saturation and surface water, with supportive indicators of the geomorphic profile and drainage patterns in the landscape. Hydrology and vegetation precluded the need for repeated soil observations, however that observed along with cut faces and tracks corresponded with hydric features. These soil indicators included subsurface shallow clay pan; gleyed (dominantly grey or bluish grey in colour low chroma 5:1) or protruding bedrock aquitards dependant on soil type and weathering; strong brown to dark brown redox segregations of iron and manganese within the soil matrix implying prolonged wetness.

Formal wetland topographical survey was then undertaken with Taiao Surveyors Ltd staff (15/02/24) to and disseminated to the wider consulting team, enabling the collaborative design process and pre-emptive avoidance of effects from clearance or earthworks within their extent. Wetlands are identified within this report as:

- Area 02: A- H
- Area 04: I; J & K

³¹ “This exclusion is not targeted at pasture being targeted for urban development or for other land uses. It does not apply to wetlands in other areas of grassland that are not grazed, such as in parklands, golfcourses, landscaped areas and areas of farmland not used for grazing purposes”. MfE (December 2022) Pasture Exclusion Assessment Methodology Pg 9

³² National List of Exotic Pasture Species List (2022) MfE

³³ * denotes exotic

³⁴ VALUES (NPS FM 2020 Amendment No.1 (2022) (i) ecosystem health; (ii) indigenous biodiversity; (iii) hydrological function; (iv) Maori freshwater values; (v) amenity values

Site photos are provided for illustration.

FIG 17: FOCUS AREA 02 STAGES 1 & 2 WETLANDS A-H TOPO

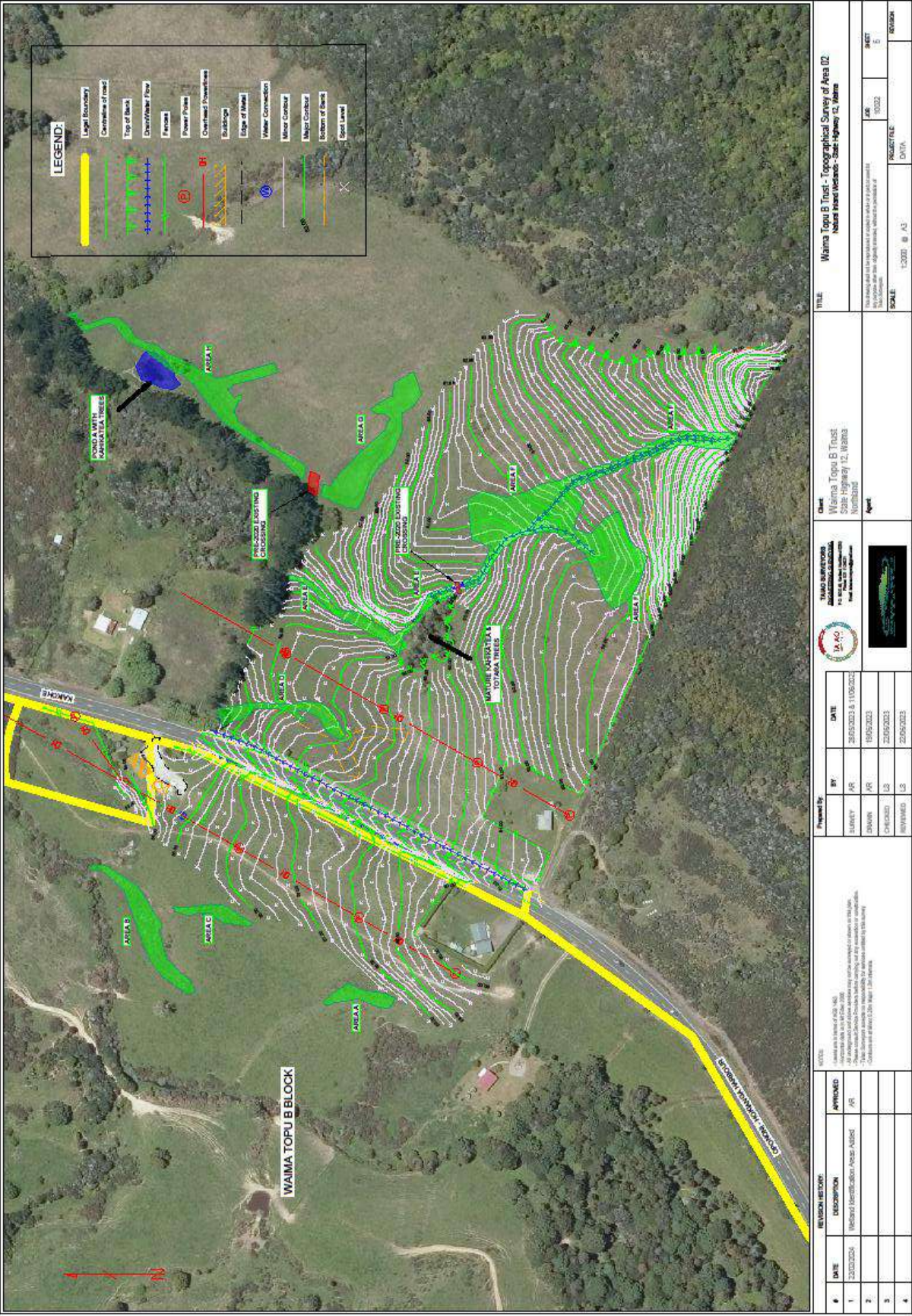
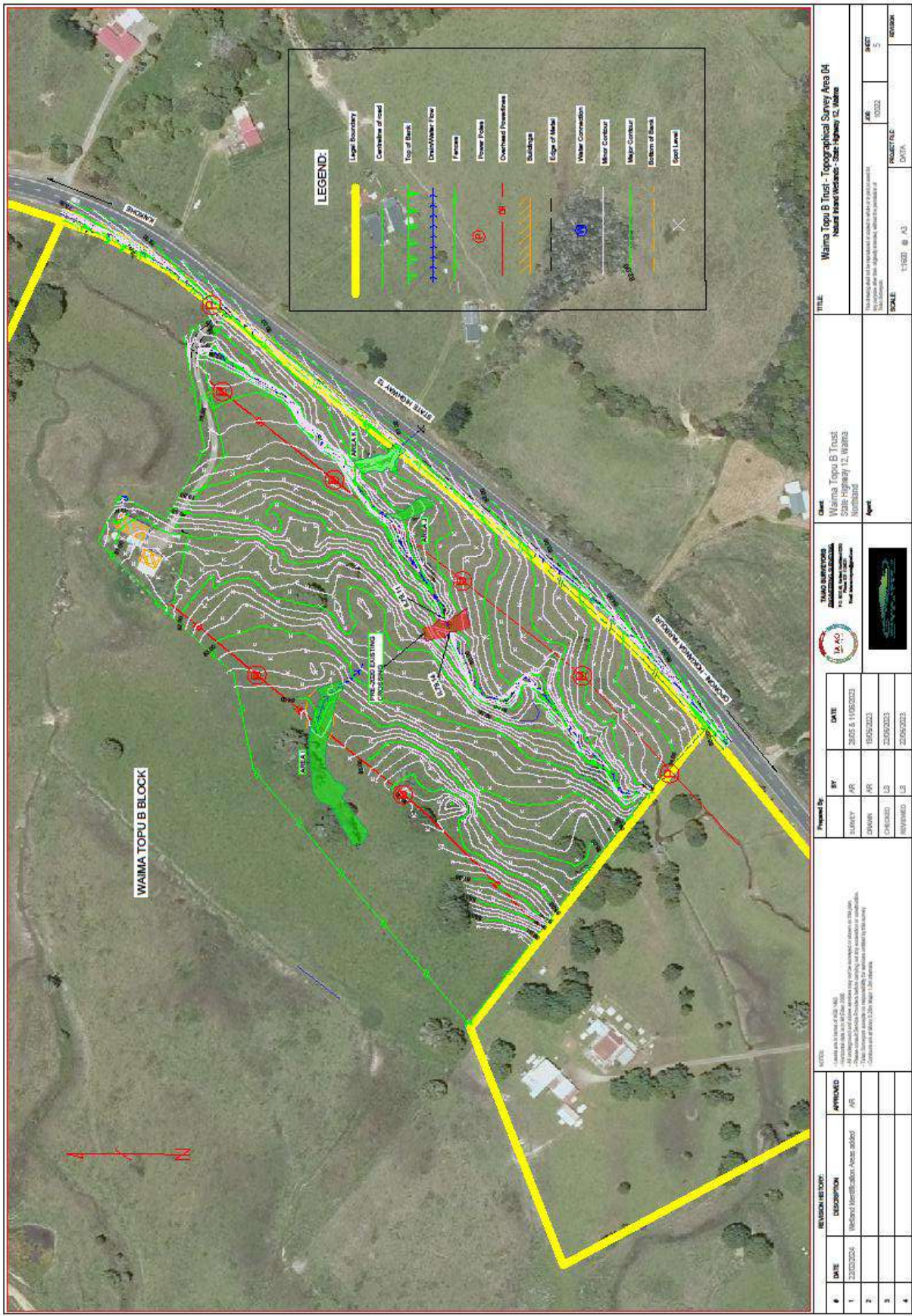


FIG 18: FOCUS AREA 04 STAGE 3 WETLANDS TOPO I; J & K



The prevalent FACW & OBL short herbaceous, grass and *Juncus* species represent a typical pastoral association commonly able to persist regardless of grazing and pugging due to growth form and/or unpalatability. Species were largely exotic. Wetland determination as per the Protocols is not dependent on indigenous dominance. Regardless of origin, wetland species have high functionality in retaining sediment and protecting groundwater or open waterways from nutrient input. No rare or locally uncommon species were encountered, including *Brachyglottis* noted in the desktop review.

There was an absence of riparian shrubland vegetation on site. Tall terrestrial vegetation is limited to exotic shelterbelt species or individual kahikatea; totara or pūriri. A cluster of kahikatea in the Bull Paddock Area 02 is remnant of the WF8 kahikatea pukatea (swamp forest) ecological heritage of this area.

The primary wetland associations onsite are consistently of a low diversity FACW & OBL short wetland grass - herbaceous association: *Paspalum distichum** (FACW) is dominant, with varied frequency of *Agrostis stolonifera** (FACW) & localised contribution of *Isachne globosa* (OBL). Frequent co occurrences are *Persicaria** (OBL & FACW spp); *Carex leporina** (FACW); *Cyperus brevifolius** (FACW); *Isolepis prolifera* (OBL); *I. reticularis* (FACW); *Euchiton limosus* (FACW); *Eleocharis acuta* (OBL); *Ludwigia palustris*(OBL); *Mysotis laxa subsp. caespitosa**(OBL); *Ranunculus flammula* *(FACW); *Callitriche stagnalis*(OBL); *Epilobium chionanthum* (FACW) & *Juncus* spp (FACW) present are common generalists - *Juncus effusus**; *J. edgariae* and *J. articulatus**. Associations vary with depth of saturation/standing water.

The occurrence of innocuous exotics *Holcus lanatus**; *Ranunculus repens** & *Lotus pedunculatus** (FAC) on micro hummocks within the wetlands is not sufficiently frequent to alter the evident wetland diagnosis. These species are common throughout many forms of wetland in Northland, particularly on margins or on slightly raised microtopography, not preferring prolonged submersion.

Wetland throughout grades quickly with reduced soil saturation and slight micro elevation to loss of dominance typified by FACU & UPL exotic grass species including kikuyu; ryegrass; browntop; cocksfoot; abundant carrotweed (UPL); *Paspalum dilatatum*; and ratstail with common herbaceous pasture weeds such as hawksbeard (FACU), plantain (FACU), and dock (FACU). This represents non wetland both in terms of species dominance and NEPSL³⁵ pastoral exclusion species.

The wetlands are largely closed systems under dry conditions, becoming deeper in hydrology and connected to adjacent waterways and/or with each other (e.g. E & F, G & H; C & B) under higher rainfall. They are largely either of ephemeral or swamp or grade within themselves dependant on depth. J is a short seepage to the stream.

³⁵ National Exotic Pasture Species List (2022) AgResearch for MfE

TABLE 3: IDENTIFIED WETLAND AREAS

	WETLAND										
	A	B	C	D	E	F	G	H	I	J	K
PROPOSED AREA	02 WEST	02 WEST	02 WEST	02 EAST	02 EAST	02 EAST	02 EAST	02 EAST	04	04	04
TYPE ³⁶	EPHEMERAL	EPHEMERAL/ SWAMP	EPHEMERAL	EPHEMERAL	EPHEMERAL	EPHEMERAL	SWAMP/ EPHEMERAL	SWAMP/ EPHEMERAL	EPHEMERAL	SEEPAGE	SWAMP

Grasses were recognised through professional experience from leaf form, ligule; growth habit and habitat, with simple determination from seed heads not practicable at this time of year. The NLEPS does not include common wetland grasses *Glyceria*; *Paspalum distichum*^{*37} (FACW), *Isachne globosa* (OBL) and *Agrostis stolonifera*^{*} (FACW).

Rushes are visible dotted within some areas. Discrete plants of *Juncus* throughout dominant exotic pasture **do not** uphold a *natural inland wetland* diagnosis. A key visual cue is dominance of associated ground cover that cannot withstand long term saturation necessary for wetland species dominance e.g. FACU & UPL clovers; kikuyu; *Lotus corniculatus*; & exotic pasture grasses.

Larger *Juncus* root structure, shoot water retention capacity and mass production of long lived seeds allow them to compete within pasture, and persist through drier periods as opposed to other smaller FACW species or more specialized OBL hydrophilic species.

EPHEMERAL

The ephemeral depressions with seasonally strong fluctuation are natural landscape features, well defined in the landscape by depressed margins following basal contour. Their internal water flow appears nil and are likely largely rainfed. This is typical ephemeral character - wet hollows, lenses or basins that dry out or shrink dramatically on a seasonal basis with a lower water table than swamp and mineral substrate c.f peat.

Ephemeral wetlands typically have a large exotic component due to their lowland pastoral locations as per the site. Although the species composition has been simplified by historic grazing influence, the site examples are in keeping with the diagnostic character³⁶ -

- fed by rain and surface water
- characterized by water table near surface with great fluctuation – temporary saturation (ephemeral)
- slow water movement if any, periodically inundated by standing water
- flat to slight slopes; gully margins; edges of open water bodies.
- typically herbaceous, grass, sedge and rush e.g. *Agrostis*; *Carex* and *Juncus*
- substrate usually mineral with good to moderate drainage
- relatively acidic

Ephemeral wetlands exhibit extreme fluctuations in *surface water*. The perennial FACW and OBL species that occupy them still imply hydrological reliability. It is the less obvious persistence of ground water below the surface that ensures their long term viability. The

³⁶ Johnson & Gerbeaux (2004) Wetland Types in NZ

³⁷ * denotes exotic

potential complete loss of water during some dry seasonality or years does not exempt a wetland diagnosis.

Common species include *Paspalum distichum** (FACW) dominant, with varied frequency of *Agrostis stolonifera** (FACW) & *Persicaria* (OBL & FACW spp); *Carex leporina** (FACW); *Cyperus brevifolius** (FACW); *Eleocharis acuta* (OBL); *Epilobium chionanthum* (FACW. *Juncus* spp (FACW) present are common widespread generalists associated with disturbed areas and pasture - *Juncus effusus*; *J. edgariae* and *J. articulatus*. A full species list is provided in Appendix 1.

Ephemeral wetlands, typically of small herbs and grasses in production landscapes, are a *Naturally Rare*³⁸ and *Endangered ecosystem*³⁹ type in New Zealand, lacking in recognition due to their innocuous character and often filled in pasture.

SWAMP

*Swamp*³⁶ areas are diagnostically:

- standing water and/ or surface channels with gentle flow
- mainly surface water with groundwater
- water table usually above the surface;
- moderate to high fluctuation but permanent wetness at depth
- mineral or peat soils
- sedge; rush; reed; tall herb

The slightly deeper areas result in greater biodiversity in terms of individual species and also different associations/ pattern. Classification is based on the emphasis of observed vegetation type and hydrology, however in reality the two types intergrade and are dynamic systems with potential to change extent and composition over time due to natural factors e.g. drought; invasion; interspecific competition.

The site examples are a depauperate version of the broad type⁴⁰ reference:

WL11: MACHAERINA SEDGELAND

- Palustrine/riverine/lacustrine wetlands of a wide range of variants throughout New Zealand
- Sedgeland, rushland with a high water table dominated by species of *Machaerina*, square sedge, *Eleocharis* and *Juncus*
- Scattered harakeke and *Carex* spp.
- Oioi, tangle fern and *Gahnia* spp., can be locally dominant.

Onsite FACW *Juncus* is more prevalent in these areas and OBL species more frequent e.g. *Isolepis prolifera*, *Eleocharis acuta*; *Isachne globosa*; *Ludwigia palustris*. The larger stature perennial sedge type association suggests prolonged stability of deeper hydrology. Filamentous green algae and *Callitriche* (OBL) suggest nutrient enrichment in some areas of standing water.

³⁸ Williams et al (2007) New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework *New Zealand Journal of Ecology* 31(2): 119-128

³⁹ Holdaway et al (2012) Status Assessment of New Zealand's Naturally Uncommon Ecosystems *Conservation Biology* (26)4: 619–629. Class B2 historical decline 500 years in ecological function throughout ≥70% of extant distribution

⁴⁰ Singers & Rogers (2014) A classification of New Zealand's terrestrial ecosystems. Science for Conservation 325, DoC Wellington

FROM LEFT: MYOSOTIS (OBL) WITH DISTINCTIVE BLUE FLOWERS; AREA A DOMINANT PASPALUM DISTICHUM (FACW) MAY APPEARS AS TERRESTRIAL GRASS UNTIL EXAMINED; REMNANT CABBAGE TREES AREA 02 WETLAND D PERSIST IN AERIAL PHOTOGRAPHY FROM THE 1950s



CLOCKWISE: WETLAND C PASPALUM DISTICHUM (FACW) DOMINANCE WITH JUNCUS (FACW) BORDER; AREA A CONNECTED TO THE CREEK UNDER HIGH RAINFALL BY AN NON WETLAND OVERLAND FLOW PATH THAT APPEARS TO HAVE BEEN DUG AS DRAINAGE IN AERIALS, DENSITY OF JUNCUS, GORSE ON HUMMOCK; JUNCUS EDGARIE (FACW) ABUNDANT SITE SPECIES; TYPICAL SHORT EPHEMERAL TURF P. DISTICHUM (FACW) ISOLEPIS (FACW) PERSICARIA (FACW) CYPERUS BREVIFOLIUS (FACW); LUSH GREEN P. DISTICHUM (FACW) WITH PERSICARIA (FACW) AMONGST DRIER PASTURE; WETLAND B EXIT TO STREAM





CLOCKWISE FROM LEFT:PASPALUM DISTICHUM DOMINANT WETLAND GRASS HAS A DISTINCTIVE TWO PRONGED SEED HEAD;
WETLAND B LOW HERBACEOUS & GRASS WITH TALLER JUNCUS; WETLAND D (JUNCUS, PERSICARIA, ISOLEPSIS, LUDWIGIA ,P.
DISTICHUM, RANUNCULUS FLAMMULA,AGROSTIS STOLIFERA) COMMENCES AS A PASTURE SEEPAGE AND RUNS SLIGHTLY
NORTH WEST BOUNDARY WITH TO STATE HIGHWAY 12 TOWARD TAHEKE 3b; END OF D OCCLUDED BY THE ROAD ; TYPICAL
P.DISTICHUM IN D





CLOCKWISE FROM LEFT: E RUNS PAST KAHIKATEA STAND AREA02 THEN TURNS AT RIGHT ANGLE TOWARD EXIT INTO TAHEKE 3B, E TOWARD TAHEKE 3B DEEPEST AREA OF HYDROLOGY WITH RAFTING AND EMERGENT SPECIES DEEPLY INCISED; EMERGENCE OF F AT BOUNDARY; F RUNS TO E DOWNSLOPE; F SHORT STATURE ELEOCHARIS ACUTA (OBL) CYPERUS BREVIFOLIUS (FACW) & ISOLEPSIS PROLIFERA (OBL) AMONGST PASPALUM DISTICHUM



*CLOCKWISE VIEW OVER G NORTH; BOTTOM OF G DRY CROSSING HEADS AT RIGHT ANGLES AS H TOWARD
TAHEKE 3B; NORTH ALONG H; END OF H DAMP HOLLOW, PERCHED EXIT OF H TO CREEK*



CLOCKWISE TYPICAL FACW & OBL SPECIES ASSOCIATIONS: *JUNCUS EDGARAIE*, *PERSICARIA*, *AGROSTIS STOLONIFERA*, *PASPALUM DISTICHUM*, *LOTUS CORNICULATUS* (NON HAIRY), *LUDWIGIA*. *RANUNCULUS REPENS* IS ON RAISED PUGGED HUMMOCKS; *LUDWIGIA*, *JUNCUS ARTICULATUS*, *JUNCUS EFFUSUS*, *CAREX LEPORINA*, *JUNCUS TENUIS* SUBSP. *DICHOTOMOUS*



FROM LEFT: FACW WETLAND GRASSES *AGROSTIS STOLONIFERA* & *PASPALUM DISTICHUM*; TYPICAL FACW & OBL SPECIES ASSOCIATION *PERSICARIA*, *ISOLEPIS*, *JUNCUS ARTICULATUS*, *AGROSTIS STOLONIFERA*, *JUNCUS EFFUSUS*, *LUDWIGIA*, *CYPERUS BREVIFOLIUS*, *PASPALUM DISTICHUM*



**VIEW EAST OVER AREA 02 NORTHERN MATARAU TRACT IN DISTANCE; TYPIC DRY PASTURE OF AREA 02;
ABUNDANT HEADS OF DAUCUS (UPL) APPEAR AS JUNCUS FROM A DISTANCE; REMNANT TOTARA ADJACENT
WETLAND I AREA 04**





TERRESTRIAL

Ecological site values within the designated footprint are largely dictated by the wetland areas and receiving tributaries of the Whawharu Stream.

Predicted ecosystem⁴¹ types are

- **WF8** *Kahikatea pukatea on Autea Clay*
- **WF11** *Kauri podocarp broadleaved on Pakatai Clay*

These are not represented. Indigenous terrestrial vegetation is limited to relict mature podocarps and pūriri visible from the 1950 aerials but likely present prior. There was an absence of riparian shrubland vegetation on site. The small kahikatea stand in the Bull paddock is remnant of the *WF8 kahikatea pukatea* (swamp forest) ecological heritage of this area, however has no understory as part of the pasture.

There are no kauri in the development area to invoke consideration of the *Biosecurity (National PA Pest Management Plan) Order 2022*. No flora species with threat status or locally uncommon were found within or beyond the wetlands in the footprints.

Closely to the east of the Bull paddock (Area 02) the Northern Mataraua forest tract (PNA Unit #006/002) commences, within the parent parcel. This contains representative *pukatea–taraire–towai* & *kahikatea–towai* forest but does not extend into the development area.

FAUNA

Basic observations were incidental to the main consideration of wetland and vegetation significance, soils and hydrology, but complement the characterisation of the site. Pest control and an increased density of peripheral shrubby riparian cover would create better functional habitat for any species on site including as a buffer for aquatic function and internal habitat, mitigatory of increased residential occupation. The proposal sites are not highly mobile fauna⁴² areas⁴³ or likely to be so currently.

AVIFAUNA

Six 5 minute bird counts were undertaken (7/2/24) in the morning under fine clear conditions to observe species utilising the focus areas:

- Area 04 – Upper eastern contour by kahikatea (Wetland I)
- Area 02
 - Wetland A broad pasture extent
 - Wetland B broad pasture extent & riparian creek area
 - Wetland E Kahikatea grove broad pasture extent & deepest swamp extent
 - Wetland F – Upper contour with broad view
 - Wetland H - broad pasture extent & riparian creek area

Conspicuous birdlife was limited largely to exotic and native insectivorous generalists for which the pasture, wetlands and scattered podocarps contribute to territorial feeding areas habitat e.g. skylark; swallows; thrush, fantail; sparrow. Pukeko and paradise duck are also

⁴¹ https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer

⁴² NPS-IB (2023) **Specified highly mobile fauna** means the Threatened or At Risk species that are identified in Appendix 2

⁴³ NPS-IB (2023) A **highly mobile fauna area** means an area outside an SNA that is identified under clause 3.20 as an area used intermittently by specified highly mobile fauna.

present. Numerous kingfisher were sighted on fenceposts. A kahu sighted was using open pasture as hunting ground, likely for rabbits.

The property has *Kiwi Present* designation (DoC 2018). Wetland and pasture for feeding with adjacent (<300m) terrestrial cover represents high quality territory. The lack of surrounding cover negates the wetlands as habitat for fernbird or crakes. The lack of cover would discourage bittern from utilising them as a feeding resource, as supplementary to their preferred habitat from professional experience of tall dense sedge/ rush wetland e.g. raupo; kuta; *Machaerina* with open water edges.

FISH

A fish survey was outside the scope of reporting. There are no site or reach specific FWFD record⁴⁴ onsite and local records are scarce.

NIWA has combined REC V2 classification with monitoring data to extrapolate a wide range of instream water quality and fish habitat parameters for all mapped NZ rivers. This resource gives potential fish species in both reaches interacting directly with the site as below.

TABLE 4: NIWA PREDICTED SPECIES

NIWA PREDICTED SPECIES	COMMON NAME	THREAT STATUS
WHAWHARU STREAM		
<i>Anguilla australis</i>	Shortfin eel	Not Threatened
<i>Gobiomorphus huttoni</i>	Redfin bully	Not Threatened

Wetland E has the deepest swamp character but there is no fish passage beyond. However, habitat is possible for shortfin tuna - versatile in habitat and able to cross overland if occluded between waterbodies.

Pond A is stagnant and showing eutrophication from stock. Wetlands I & J (Area02) and A; C; D; Upper F; H & G are unlikely to provide habitat.

INVERTEBRATES

Invertebrate survey was outside the scope of this reporting. However, the proliferation of OBL & FACW wetland species is also an indicator of niches supportive of invertebrate populations adapted to complete at least a portion of their lifecycle in wet conditions, and it may be assumed they are present. In NZ this has been shown to vary with region; wetland type and water chemistry (largely acidity) with fauna dominated by communities of five invertebrate groups - *Chironomidae* midges; aquatic mites (*Acarina*); microcrustacea (copepods & ostracods) and aquatic nematodes. The mud snail *Potamopyrgus antipodarum* was cosmopolitan across NZ. Unlike aquatic insects, meiofauna such as the nematodes, copepods and ostracods do not leave the wetland environment as winged adults.

Despite their inconspicuousness and little recognition in comparison to fauna commonly valued by society e.g. birds & fish - they have a critical role in wider ecosystem function e.g. organic carbon and nutrient turnover; as part of the food web reaching large densities and in terms of intrinsic biodiversity value - many being known only to NZ.

⁴⁴ Freshwater Fish Database records NIWA

SIGNIFICANCE

Consideration of significance is given, in regard to *Northland Regional Policy Statement Appendix 5 (2018)*, with guidance contained within non statutory documents including *DOC Guidelines for Assessing Significant Ecological Values (2016)*; *Guidelines for the Application of Ecological Significance Criteria for Indigenous Vegetation and Habitats of Indigenous Fauna in the Northland Region (Wildlands 2019)*.

Appendix 5 is the standard Northland criteria for assessing significance of an ecological site, and directly reflects those contained in *Appendix 1* of the recently mandated *National Policy Statement for Indigenous Biodiversity (2023)* including consideration of *Representativeness; Diversity & Pattern; Rarity and Distinctiveness & Ecological Context*.

TABLE 5: ASSESSMENT OF SIGNIFICANT INDIGENOUS VEGETATION AND SIGNIFICANT HABITATS OF INDIGENOUS FAUNA IN TERRESTRIAL, FRESHWATER AND MARINE ENVIRONMENTS NORTHLAND REGIONAL POLICY STATEMENT (2018) APPENDIX 5

(1) REPRESENTATIVENESS	WETLANDS
<p>(A) Regardless of its size, the ecological site is largely indigenous vegetation or habitat that is representative, typical and characteristic of the natural diversity at the relevant and recognised ecological classification and scale to which the ecological site belongs</p> <p>(i) if the ecological site comprises largely indigenous vegetation types: and</p> <p>(ii) Is typical of what would have existed circa 1840</p> <p>(iii) Is represented by the faunal assemblages in most of the guilds expected for the habitat type</p> <p>(B) The ecological site</p> <p>(i) Is a large example of indigenous vegetation or habitat of indigenous fauna</p> <p>(ii) Contains a combination of landform and indigenous vegetation and habitats of indigenous fauna that is considered to be a good example of its type at the relevant and recognised ecological classification and scale</p>	<p>A – no largely exotic dominated by <i>Paspalum distichum</i>, however this is a typical scenario of ephemeral wetlands</p> <p>(iii) Little internal habitat for birds/ fish however increases territorial economy over dry pasture. Wetland birds apparently absent except for common & adaptable pukeko.</p> <p>B (i) no</p> <p>(ii) impacted by pastoral history, however this is a typical scenario of small ephemeral wetlands</p> <p>LOW</p>
<p>(2) RARITY/ DISTINCTIVENESS</p> <p>(A) The ecological site comprises indigenous ecosystems or indigenous vegetation types that:</p> <p>(i) Are acutely or chronically threatened land environments associated with LENZ Level 4</p> <p>(ii) Excluding wetlands, are now less than 20% original extent</p> <p>(iii) excluding man made wetlands are examples of wetland classes that either otherwise trigger Appendix 5 criteria or exceed any of the following area threshold</p> <p>(a) Saltmarsh 0.5ha</p> <p>(b) Shallow water lake margins and rivers 0.5ha</p> <p>(c) Swamp >0.4</p> <p>(d) Bog >0.2 ha</p> <p>(e) Wet heathlands >0.2 ha</p> <p>(f) Marsh; fen; ephemeral wetland or seepage/flush >0.05ha</p> <p>(B) Indigenous vegetation or habitat of indigenous fauna that supports one or more indigenous taxa that are threatened, at risk, data deficient, or uncommon either nationally or within the relevant ecological scale</p> <p>(C) The ecological site contains indigenous vegetation or an indigenous taxon that is</p> <p>(i) endemic to the Northland/ Auckland region</p> <p>(ii) At its distribution limit in the Northland region</p> <p>(D) The ecological site contains indigenous vegetation or an association of indigenous taxa that</p> <p>(i) Is distinctive of a restricted occurrence</p> <p>(ii) Is part of an ecological unit that occurs on a originally rare ecosystem</p> <p>(iii) Is an indigenous ecosystem and vegetation type that is</p>	<p>A(i) YES</p> <p>(ii) some area mapped WF8 but only individual trees remnant</p> <p>(iii) requires calculation</p> <p>B) none observed</p> <p>C) none observed</p> <p>D) i) vegetation largely exotic</p> <p>but Ephemeral wetlands naturally rare and threatened</p> <p>MODERATE</p>

(iv) naturally rare or has developed as a result of an unusual environmental factor(s) that occur or are likely to occur in Northland: or Is an example of a nationally or regionally rare habitat as recognised in the New Zealand Marine Protected Areas Policy	
(3) DIVERSITY AND PATTERN (A) Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of: (i) Indigenous ecosystem or habitat types; or (ii) Indigenous taxa (B) Changes in taxon composition reflecting the existence of diverse natural features or ecological gradients; or (C) Intact ecological sequences	(A) NO (B) Composition grazing adapted eg. <i>Paspalum distichum</i> , Abrupt change from wetland species to terrestrial dryland Sequence of taxon composition/ dominance changes with water depth and/ or nutrients. Diversity higher where hydrology more pronounced LOW
(4) ECOLOGICAL CONTEXT (A) Indigenous vegetation or habitat of indigenous fauna is present that provides or contributes to an important ecological linkage or network, or provides an important buffering function: or (B) The ecological site plays an important hydrological, biological or ecological role in the natural functioning of a riverine, lacustrine, palustrine, estuarine, plutonic(including karst), geothermal or marine system (C) The ecological site is an important habitat for critical life history stages of indigenous fauna including breeding/ spawning, roosting, nesting, resting, feeding, moulting, refugia or migration staging point (as used seasonally, temporarily or permanently	(A) & B) Wetland nutrient processing buffers groundwater and surface water streams in catchment retains sediment C) Damp pasture function as heightened feeding territorial economics for ground dwelling species and insectivores e.g. kiwi; kingfisher over pasture dry extent. Likely invertebrate communities with life stages requiring wet conditions MODERATE

Wetlands have *LOW - MODERATE* significance, related to their water quality protection functionality as wetland and rare ecosystem type. Their exotic and degraded character is typical for the type in pastoral settings. Their individual species value is largely negligible as per EIANZ (2018)⁴⁵ criteria. A shift in wetland species composition with more frequent inundation would not represent a loss of value, providing the ephemeral character is not entirely lost.

TABLE 6: FACTORS TO CONSIDER IN ASSESSING SPECIES VALUE (TABLE 5 EIANZ 2018)

VALUE	EXPLANATION
VERY HIGH	<i>Nationally Threatened species (Critical, Endangered or Vulnerable)</i> found in the Zone of Influence (ZOI) or likely to occur there, either permanently or occasionally
HIGH	<i>At Risk (Declining)</i> species found in the Zone of Influence or likely to occur there, either permanently or occasionally
MODERATE-HIGH	Species listed in any other category of <i>At Risk category (Recovering, Relict or Naturally Uncommon)</i> found in the Zone of Influence or likely to occur there, either permanently or occasionally.
MODERATE	Locally uncommon/rare species but not <i>Nationally Threatened or At Risk</i> .
LOW	Species <i>Not Threatened</i> nationally and common locally.
NEGLECTIBLE	Exotic species, including pests

We rate the proposed development areas in exotic pasture as **NEGLECTIBLE** significance and species value. No highly mobile species⁴⁶ are likely dependant on the areas for any part of their lifecycle. There is **potential** for kiwi (Moderate species value) to utilise footprint of development areas, as part of the wider site territory, however this is unlikely to affect any of these species in a significant adverse way. We recommend a pre works site check for daytime sheltering kiwi if pasture is allowed to become rank prior to development. It is an offence under the Wildlife Act 1953 to **intentionally** harm, disturb or kill native wildlife.

⁴⁵ (2018) EIANZ Ecological Impact Assessment Guidelines for New Zealand 2nd Edition

⁴⁶ NPSIB (2023) *Appendix 2: Specified highly mobile fauna*

VALUES & EXTENT

Preservation of *extent* is central to the intent of the NPS – FM (2020) and accompanying protective regulations of the NES-F (2020). Consideration of the site wetland also informs potential *values*. Avoidance of loss of *values* in addition to *extent* is core policy⁴⁷ of the NPS – FM (2020).

Values as per NPS- FM definition–

ECOSYSTEM HEALTH

- Currently impacted condition – limited diversity, semi indigenous with functionality of sediment retention and processing, no buffers on wetlands
- Contribution of basic feeding habitat and heightened territorial economics across guilds in otherwise production site

INDIGENOUS BIODIVERSITY

- Limited bird guild - insectivores dominant
- Likely invertebrate communities adapted to wet conditions
- Pastoral influence – largely exotic and/or common wetland species typical of this setting
- Freshwater fish potential in the Whawhara Stream. Eel potential in Wetland E

HYDROLOGICAL FUNCTION

- Sediment retention and nutrient processing in impounded closed systems, protective of groundwater and sediment control under rainfall when hydrological connections to ground and surface water pronounced.

MĀORI FRESHWATER VALUES

- outside scope of this report

ASSESSMENT OF EFFECTS

Assessment of effects follows the systematic process of the EIANZ⁴⁸ Guidelines as best practice. Consideration of a raw proposal form without any consideration/ mitigation is best practice methodology.

Standard criteria are utilised in a matrix framework to determine the impact of a proposal on a habitat, incorporating a three step process:

- Ecological values are ranked on a scale of *Negligible, Low, Moderate, High, or Very High*.
- The magnitude of effects on these values is ranked on a similar scale (EIANZ TABLE 8)
- The overall level of effect is determined by a combination of value and the magnitude of the effect. (EIANZ TABLE 10)

DEVELOPMENT PHASE

The primary potential effects are limited to

- stormwater discharge 100m of a *natural inland wetland*.
- earthworks within 100m of a *natural inland wetland* e.g. building platforms and access
- 2 culvert installations

RESIDENTIAL OCCUPATION

Additional potential, but avoidable effects of intensified occupation include

- pets within a *Kiwi Present* kiwi zone

⁴⁷ Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

⁴⁸ Environmental Institute of Australia and New Zealand

- weed and pest introduction
- stormwater inputs
- increased disturbance from residential occupation lighting & pets, incursion into wetlands

MAGNITUDE OF EFFECTS

Magnitude is determined by a combination of scale (temporal and spatial) of effect and degree of change that will be caused in or to the ecological component. It should initially be considered in a raw or unmitigated form.

TABLE 7: CRITERIA FOR DESCRIBING MAGNITUDE OF EFFECT (EIANZ 2018 TABLE 8)

MAGNITUDE	DESCRIPTION
VERY HIGH	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
HIGH	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature
MODERATE	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
LOW	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
NEGLIGIBLE	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

The interaction of magnitude of effect and ecological value (or significance) of species and habitat gives the **unmitigated level of effect** as per *EIANZs Table 10* (below). This resultant level of effects is then a guide to the extent and nature of the ecological management required to render them acceptable in the statutory framework.

Impact management should enable maintenance or improvement of existing biodiversity (EIANZ 2018).

In this regard we consider the **unmitigated** potential effects as below:

Proposed Building/ Access Areas in pasture

- **VERY LOW** as a potential interaction between a **NEGLIGIBLE** level of effects on **NEGLIGIBLE** value elements

Wetland & Waterways

- **MODERATE** as a potential **MODERATE- HIGH** effect on the **LOW-MODERATE** value of the wetlands & waterways

TABLE 8: CRITERIA FOR DESCRIBING LEVEL OF EFFECTS (EIANZ TABLE 10)

		ECOLOGICAL &/OR CONSERVATION VALUE				
		VERY HIGH	HIGH	MODERATE	LOW	NEGLIGIBLE
MAGNITUDE	VERY HIGH	Very High	Very High	High	Moderate	Low
	HIGH	Very High	Very High	Moderate	Low	Very Low
	MODERATE	Very High	High	Moderate	Very Low	Very Low
	LOW	Moderate	Low	Low	Very low	Very Low
	NEGLIGIBLE	Low	Very Low	Very Low	Very Low	Very Low
	POSITIVE	Net Gain	Net Gain	Net Gain	Net Gain	Net Gain

IMPACT MANAGEMENT

Implementation of effects management is considered sufficient mitigation for progression of the proposal with a *less than minor* level of impact.

Potential development impacts on the waterway may be managed by protective regulations of the NES-F and best practice stormwater design.

No indigenous vegetation clearance is required. The Bull Paddock kahikatea stand has been incorporated into buffer planting and management, as the remaining mature vegetation and provide vertical heterogeneity, as have those surrounding Wetland I in Stage 3. Further large individual totara Stage 3 and a singular puriri are to be retained for amenity. Pasture in works area should be grazed short prior to earthworks to avoid provision of shelter for kiwi/ or kiwi dog check prior to clearance.

In order to provide a visually obvious cue protecting existing *extent & values* from disturbance and inadvertent encroachment we recommend a 10m minimum advisable riparian buffer⁴⁹ -

- to allow succession to occur within the buffer for long term resilience
- provide habitat
- to protect of internal habitat from disturbance
- achieve aquatic function – attenuation; shade; sediment control
- amenity

Wider buffers are often suggested to reduce edge effects of weed ingress, facilitating self sustaining vegetation. However, this can be managed with provision of a staged Revegetation, Pest & Weed Management Plan stipulated as a condition of consent-

- species and numbers
- fencing
- covalent pest and weed control to protect the developing vegetation and developing habitat provision.

Reg 55 NES- F (2020) requires any planting within 10m of wetland to be locally appropriate and indigenous to create a natural ecosystem pattern and to avoid potential loss of values. Buffers

⁴⁹ NIWA (2000) Review of Information on riparian buffer widths necessary to support sustainable vegetation and meet aquatic functions TP350 Auckland Regional Council

should contain a diversity of riparian species with fidelity as suitable to predicted ecosystem type of *WF8 Kahikatea pukatea* or *WF11 Kauri podocarp* depending on underlying soil type. Where necessary to accommodate built form and avoid shading short dense sedges are appropriate adjacent the smaller ephemeral wetlands which have developed generalist associations tolerant of full sun and have no internal habitat. The majority of sediment is trapped within the first 2m of a source and this width is therefore considered suitable, additionally due to the lack of steep bank contour.

This represents a net gain over the status quo biodiversity and functional habitat for a broader range of fauna as well as improved amenity appeal. Other *positive* effects of planting will be

- increase the ability of the site to accommodate diffuse runoff from upper pasture
- visual definition of the protected areas to future owners

We recommended varieties not used are eco-sourced and no kauri should be introduced.

We recommended the riparian buffers are fenced bordering the EUAs as an effective visual demarcation to avoid inadvertent ingress and damage over time. As stock exclusion will no longer be required within the Stages an appropriate design may take the form of driven posts with as little as 2 wires in the majority of areas. Continued grazing to the rear of all stages will necessitate stockproof fencing at these boundaries.

Pest and weed control will also serve the secondary purpose of mitigating a potential scenario of increased weed and pest ingress into natural areas adjoining the intensified residential occupation. i.e the adjacent Mataraua forest tract PNA or Whawhara Stream.

High value fauna present may exist in proximity to peri urban areas as long as there is sufficient functional habitat and pest control.

Cats and dogs are a primary threat to ground dwelling fauna that may utilise wetland and riparian areas as habitat develops, as well as potential for pets to wander into the adjacent PNA. The Trust has a standard lease instrument for the wider property that does not allow for cats and dogs and this is considered sufficient control if applied as a condition of consent to the EUAs.

It has been indicated “street lighting” is not part of the design. Further to avoid light throw into habitats with the increase of residential occupancy, we recommend that as the whare are constructed, outdoor lighting is hooded, not of the blue spectrum and not directed towards the developing riparian buffers or PNA periphery.

NES-F (2020)

Recognition of *natural inland wetland* onsite promotes the intent of NPS-FM Policies 5 & 6⁵⁰ and avoidance of effects through adherence to protective measures as per the NES –F (2020) in layout and best practice stormwater design.

In the absence of unmitigated point source discharge there is highly unlikely to be any wetland change in seasonal or annual range water levels, as per *PNRP Policy H.4.2 Minimum levels for Lakes and natural wetlands*.

Drainage/ destruction of wetlands is a prohibited adverse effect as per REG 53 and it is presupposed through the current pre emptive subdivision and infrastructure design parameters that this will not occur.

The EUAs do not occupy critical source areas, seepages or overland flow paths. Refer Tables 7 & 8 below. Minor natural diffuse or sheetflow inputs permeating to the wetlands within 100m will likely be *diverted* by the change of site cover, however in the absence of alteration of any point source inputs or seepages it is unlikely to **change the water level range or hydrological function of the wetlands**.

It is considered this will not result in *complete or partial drainage of all or part of the wetland* as per *Reg 52(i);(ii)*

Earthworks within 100m or 10m will not result in complete or partial drainage of all or part of the wetland as per Reg 52(i);(ii) & Reg 54 (c) & (d) if they do not occupy or intersect with the mapped wetlands.

It has been indicated that pre and post development stormwater input to the wetlands are aligned. Final stormwater engineering was not available at the time of reporting. Stormwater inputs to the wetland represents a discharge within 100m, non complying under *Reg 54(d) NES- F (2020)*. Inputs should be diffuse and in a manner that prevents sediment, scouring or erosion as best practice to avoid adverse effects and to maintain aquatic habitat condition. As before, the extant hydrological source of the wetlands is rain and groundwater in a pastoral catchment with variable output highly responsive to meteorological conditions. The wetlands have developed under such conditions and can naturally tolerate moderate to high fluctuations in water levels. A shift in species composition that retains a *natural inland wetland* composition is considered not to be a loss of *value* or *extent* and a less than minor level of effects. This may occur with variance in stormwater inputs, although (FACW) dominant species *Paspalum distichum*, *Ludwigia*, *Persicaria*; *Juncus* are adapted to tolerate an increase, rafting or persisting through the current ephemeral inundation cycle in response to rainfall. Inputs should ensure that the ephemeral wetlands do not become permanently inundated, which would represent a change in hydrological function in a measurable way i.e. loss of

⁵⁰ **Policy 5:** Freshwater is managed (including through a National Objectives Framework) to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.

Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

extent. Due to the negligible species value of those present, a shift in composition with more frequent inundation would not represent a loss of *values*, providing the ephemeral character is not entirely lost.

TABLE 9: NES-F (2020) REG 52

DRAINAGE OF NATURAL INLAND WETLANDS: 52 NON-COMPLYING ACTIVITIES	
(1) Earthworks outside, but within a 100 m setback from, a natural inland wetland is a non-complying activity if it—	
(a) results, or is likely to result, in the complete or partial drainage of all or part of a natural inland wetland; and	NO platforms and access do not occupy source areas or CSAs. Planted revegetation buffer to occupy the most protective 10m buffer and are a visual & physical constraint to works in this area. Culvert installation for Stage 2 & 3 to comply with the NES-F to avoid downstream effects
(b) does not have another status under any of regulations 38 to 51.	Upgrade of Bull Paddock crossing Stage 2 is other infrastructure status under REG 46
(2) The taking, use, damming, or diversion of water outside, but within a 100 m setback from, a natural inland wetland is a non-complying activity if it—	
(a) results, or is likely to result, in the complete or partial drainage of all or part of a natural inland wetland; and	NO Proposed building platforms and access do not occupy source areas or CSAs. Culvert installation for Stage 2 & 3 to comply with the NES-F to avoid downstream effects
(b) does not have another status under any of regulations 38 to 51.	N/A

TABLE 10: NES-F (2020) REG 54

OTHER ACTIVITIES: 54 NON-COMPLYING ACTIVITIES	
The following activities are non-complying activities if they do not have another status under this subpart:	
(a) vegetation clearance within, or within a 10 m setback from, a natural inland wetland:	NONE REQUIRED
(b) earthworks within, or within a 10 m setback from, a natural inland wetland:	NO— building platforms and infrastructure works all outside 10m other than crossing upgrade Bull Paddock under Reg 46
(c) the taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland if—	
(i) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and	NO Likely building platforms and access are within 100m of wetland. Minor natural diffuse or sheetflow inputs within 100m may be diverted by the change of site cover however in the absence of alteration of any point source inputs or seepages this is unlikely to change the water level range or hydrological function of the wetlands .
(ii) the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland:	
(d) the discharge of water into water within, or within a 100 m setback from, a natural inland wetland if—	
(i) there is a hydrological connection between the discharge and the wetland; and	STORMWATER DETAILED DESIGN AS YET UNDEFINED
(ii) the discharge will enter the wetland; and	
(iii) the discharge will change, or is likely to change, the water level range or hydrological function of the wetland.	NO—The wetland type current has developed in a pastoral catchment with variable output highly responsive to meteorological conditions and is adapted to moderate to high fluctuations without discernible shift in extent or value, including hydrological function under the proviso inputs should be diffuse and avoid scouring, sediment input or displacement of vegetation

Site procedures for residential and infrastructure development should include designated earthworks envelopes or marking of wetlands prior to ensure contractors avoid accidental incursion and unquantifiable effects.

The Stage 3 entrance to Area 04 will require installation of a culvert crossing in the Whawharu Creek (NZSEG# 1013452). It is recommended a Fish Management Plan (FMP) is provided to minimize the physical risk to native freshwater fish during works in the waterway. It is not within 100m of wetland down or upstream. However all culverts must met permitted activity status for NES-F Regs 70, 62 & 63 with a CIMMP provided as per Reg 69.

TABLE 11: NES-F (2020) REG 70 PERMITTED ACTIVITIES

NES- F REG 70	
(1) THE PLACEMENT, USE, ALTERATION, EXTENSION, OR RECONSTRUCTION OF A CULVERT IN, ON, OVER, OR UNDER THE BED OF ANY RIVER OR CONNECTED AREA IS A PERMITTED ACTIVITY IF IT COMPLIES WITH THE CONDITIONS.	
(2) THE CONDITIONS ARE THAT—	
(A) THE CULVERT MUST PROVIDE FOR THE SAME PASSAGE OF FISH UPSTREAM AND DOWNSTREAM AS WOULD EXIST WITHOUT THE CULVERT, EXCEPT AS REQUIRED TO CARRY OUT THE WORKS TO PLACE, ALTER, EXTEND, OR RECONSTRUCT THE CULVERT; AND	
(B) THE CULVERT MUST BE LAID PARALLEL TO THE SLOPE OF THE BED OF THE RIVER OR CONNECTED AREA; AND	
(C) THE MEAN CROSS-SECTIONAL WATER VELOCITY IN THE CULVERT MUST BE NO GREATER THAN THAT IN ALL IMMEDIATELY ADJOINING RIVER REACHES; AND	
(D) THE CULVERT'S WIDTH WHERE IT INTERSECTS WITH THE BED OF THE RIVER OR CONNECTED AREA (S) AND THE WIDTH OF THE BED AT THAT LOCATION (W), BOTH MEASURED IN METRES, MUST COMPARE AS FOLLOWS: (I) WHERE $W \leq 3$, $S \geq 1.3 \times W$; (II) WHERE $W > 3$, $S \geq (1.2 \times W) + 0.6$; AND	
(E) THE CULVERT MUST BE OPEN-BOTTOMED OR ITS INVERT MUST BE PLACED SO THAT AT LEAST 25% OF THE CULVERT'S DIAMETER IS BELOW THE LEVEL OF THE BED; AND	
(F) THE BED SUBSTRATE MUST BE PRESENT OVER THE FULL LENGTH OF THE CULVERT AND STABLE AT THE FLOW RATE AT OR BELOW WHICH THE WATER FLOWS FOR 80% OF THE TIME; AND	
(G) THE CULVERT PROVIDES FOR CONTINUITY OF GEOMORPHIC PROCESSES (SUCH AS THE MOVEMENT OF SEDIMENT AND DEBRIS).	

These should be confirmed prior to application to Regional Council. **REG 70** permitted status criteria reflect the benchmark to allow passage for all species and lifestages of indigenous fish species. Further details are necessary for this and to inform NES -F(2020) 62 & 63 as required for any new installation.

NES-F regulations provide the impetus to inact the primary intentions of the NPS FM (2020)

3.26 Fish Passage (1) -

The passage of fish is maintained, or is improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habitats

Additionally, Freshwater Fish Regulations (1983) require that without permit from DoC 6(42)(1) *no person shall construct any culvert or ford in any natural river, stream or water in such a way that the passage of fish would be impeded*

Barriers to fish pass may include both structural e.g. perching and function components e.g. water velocity exceeds the capability of fish. To provide, as above, for the same passage of fish

as in the adjoining reach, an optimal design would maintain simulation of current stream velocity and provide a crossing at:

- Sized at 1.2 x bankfull width +0.6m imbedded NES- F 70(2)c
- 150mm minimum of water (min 25% imbedded)
- natural substrate throughout
- aligned and sloped with the waterway

The comparatively weak normal (sustained)⁵¹ swimming ability of inanga³ ($0.27 \text{ m}^3\text{s}^{-1}$) is commonly used as water velocity reference to ensure a structure is passable by the majority of species. Based on currently available information, species expected within the Whawhara Creek have the normal capacity over short duration necessary to traverse the 8m culvert –

- common bully⁵² $0.24 \text{ m}^3\text{s}^{-1}$
- short fin eel⁵² $0.29 \text{ m}^3\text{s}^{-1}$
- redfin bully⁵³ $0.42 \text{ m}^3\text{s}^{-1}$

This in excess of the normal flow of the Whawhara Creek, estimated at $0.01669 \text{ m}^3\text{s}^{-1}$ at the crossing point⁵⁴, which fish would normally encounter as they navigate up or downstream. Prior to installation, all fish and lifestages are likely be able to traverse the waterway in typical swimming capacity.

The existing crossing in the Bull Paddock designated for replacement as part of Stage 3 is considered *other infrastructure*⁵⁵ as illustrated in the historic aerial review as long established before the ratification of the NES-F. Fish survey was outside the scope of works but due to the very shallow and ephemeral nature upstream reach is not considered habitat. Controls as above are considered sufficient to avoid adverse effects on any species and habitat downstream of EUAs and the culvert upgrade. Replacement will not require a Fish Management Plan (FMP) / salvage under dry conditions as it is bare clay substrate with no flow.

Works on the crossing are still subject to NES- F (2020) Reg 46 Maintenance and operation of specified infrastructure and other infrastructure (Refer below Table 11). It is therefore a *Restricted Discretionary* activity as per REG 47, with matters subject to REG 56 *Restricted discretionary activities: matters to which discretion is restricted*. Application for resource consent will be required to NRC in this regard based on design of the modifications and including impact assessment with reference to the effects management hierarchy and demonstrating that the although permitted activity status cannot be achieved there will be no adverse effect. However, due to the location and character as above, effects are considered less than minor.

⁵¹ Sustained swimming speeds fuelled entirely aerobically and does not result in fatigue.

⁵² Dupont, D (2020) Quantifying Swimming Performance of Freshwater Fishes Native to New Zealand Using Ucrit and Usprint Tests

⁵³ NIWA (2018) New Zealand Fish Passage Guidelines Table D1 Various sources

⁵⁴ Shiny Rivers NIWA

⁵⁵ As defined in the NPS-FM Infrastructure present prior to commencement of the regulations (2/9/2020) is considered *existing infrastructure*.

TABLE 12: PERMITTED ACTIVITIES REG 46 MAINTENANCE AND OPERATION OF SPECIFIED INFRASTRUCTURE AND OTHER INFRASTRUCTURE

PERMITTED ACTIVITIES REG 46 MAINTENANCE AND OPERATION OF SPECIFIED INFRASTRUCTURE AND OTHER INFRASTRUCTURE	
(1) Vegetation clearance within, or within a 10 m setback from, a natural inland wetland is a permitted activity if it— (a) is for the purpose of maintaining or operating specified infrastructure or other infrastructure ; and (b) complies with the conditions.	CANNOT COMPLY WITH CONDITION 4 (B) & (C)
(2) Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland is a permitted activity if it— (a) is for the purpose of maintaining or operating specified infrastructure or other infrastructure ; and (b) complies with the conditions.	CANNOT COMPLY WITH CONDITION 4 (B) & (C)
(3) The taking, use, damming, diversion, or discharge of water within, or within a 100 m setback from, a natural inland wetland is a permitted activity if— (a) the activity is for the purpose of maintaining or operating specified infrastructure or other infrastructure; and (b) there is a hydrological connection between the taking, use, damming, diversion, or discharge and the wetland; and (c) the taking, use, damming, diversion, or discharge will change, or is likely to change, the water level range or hydrological function of the wetland.	-
CONDITIONS (4) THE CONDITIONS ARE THAT—	
(a) the activity must comply with the general conditions on natural inland wetland activities in regulation 55, but regulation 55(2), (3)(b) to (d), and (5) do not apply if the activity is for the purpose of maintaining or operating— (i) hydro-electricity infrastructure; or (ii) any public flood control, flood protection, or drainage works that are specified infrastructure; and (b) the activity must not be for the purpose of increasing the size, or replacing part, of the specified infrastructure or other infrastructure unless the increase or replacement is to provide for the passage of fish in accordance with these regulations; and (c) the activity must not result in the formation of new pathways, boardwalks, or other accessways; and (d) if the activity is vegetation clearance, earthworks, or land disturbance, the activity must not occur over more than 500 m ² or 10% of the area of the natural inland wetland, whichever is smaller; and (e) if the activity is earthworks or land disturbance, — (i) trenches dug (for example, to maintain pipes) must be backfilled and compacted no later than 48 hours after being dug; and (ii) the activity must not result in drains being deeper, relative to the natural inland wetland's water level, than they were before the activity; and (f) if the activity is a discharge of water, it must not be a restricted discretionary activity as described in regulation 47(3A)	CANNOT COMPLY WITH CONDITION 4 (B) & (C)

CONCLUSION

This review included available documentation of the proposal and ecological context from aerial photography and online mapping, complimented by fieldwork, in order to assist orientation of a papakāinga proposal.

Natural inland wetland (NPS FM 2020) subject to the National Environmental Standards for Freshwater NES – F (2020) has been identified, delineated and surveyed for inclusion in the design. Potential adverse development and residential intensification effects have been pre-empted by recognition in a strategy specifically to protect and enhance values.

The wetland assemblages have both intrinsic and functional aspects that contribute to *Low-Moderate* significance in regard to *Appendix 5 Northland Regional Policy Statement (2018)* including protection of groundwater, TEC level I designation, and *natural rarity* of the ephemeral type.

Integrated mechanisms of buffer planting, fencing planting and pest control will serve to embed the increased residential occupancy within a resilient and effective habitat, recognising the interdependency of the wetland with surrounding terrestrial areas and hydrological linkage across the landscape to the Whawhara Stream.

The subdivision will concomitantly provoke gross positive amenity and ecological gain in comparison to the current status with *VERY LOW* impact (EIANZ 2018) or *less than minor* level of effects.



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APPENDIX 1: SPECIES LIST

Species are listed as per Clarkson, B. et al (2021):

- **OBL: OBLIGATE.** Almost always is a hydrophyte, rarely in uplands (estimated probability >99% occurrence in wetlands)
FACW: FACULTATIVE WETLAND. Usually is a hydrophyte but occasionally found in uplands (estimated probability 67–99% occurrence in wetlands)
- **FAC: FACULTATIVE.** Commonly occurs as either a hydrophyte or non-hydrophyte (estimated probability 34–66% occurrence in wetlands)
- **FACU: FACULTATIVE UPLAND.** Occasionally is a hydrophyte but usually occurs in uplands (estimated probability 1–33% occurrence in wetlands)
- **UPL: OBLIGATE UPLAND.** Rarely is a hydrophyte, almost always in uplands (estimated probability <1% occurrence in wetlands)

The majority of tree species are considered upland unless otherwise described.

*Denotes exotic species

MONOCOT TREES & SHRUBS

Cordyline australis

DICOT HERBS

<i>Ageratina riparia</i> *(FAC)	mistflower
<i>Callitriche stagnalis</i> (OBL)	starwort
<i>Crepis capillaris</i> *(FACU)	hawksbeard
<i>Daucus carota</i> * (UPL presumed)	carrot weed
<i>Epilobium pallidiflorum</i> (OBL)	tarawera, willowherb
<i>Euchiton limosus</i> (FACW)	
<i>Leondonton saxatilis</i> * (FAC)	hawkbit
<i>Lotus pendunculatus</i> * (FAC)	Lotus
<i>Ludwigia palustris</i> * (OBL)	ludwigia
<i>Myosotis laxa</i> subsp. <i>caespitosa</i> *	water forget me not
<i>Myriophyllum triphyllum</i> (OBL)	common milfoil
<i>Persicaria hydropiper</i> * (FACW)	Persicaria
<i>P. decipiens</i> (OBL)	tutanawai willow weed persicaria
<i>Plantago lanceolata</i> *(FACU)	Narrow leaved plantain
<i>P. major</i> *(FACU)	broad leaved plantain
<i>Rumex acetosella</i> *(FACU)	dock
<i>R. conglomeratus</i> *(FAC)	dock
<i>Trifolium spp</i> *(FACU/ UPL)	clover

GRASSES

<i>Agrostis capillaris</i> * (FACU)	browntop
<i>A.stolonifera</i> * (FACW)	creeping bent
<i>Alopecurus pratensis</i> * (FACU)	meadow foxtail
<i>Briza</i> * spp (UPL)	shivery grass
<i>Cenchrus clandestinus</i> *(FACU)	kikuyu
<i>Dactylis glomerata</i> * (FACU)	cocksfoot

*Glyceria declinata** (OBL)
*Holcus lanatus** (FAC)
Isachne globosa (OBL)
*Lolium arundinaceae**(FAC)
*Lolium spp** (FACU/ UPL)
*Paspalum dilatatum** (FACU)
*P. distichum** (FACW)
*Sporobolus africanus** (FACU)

sweet grass
 Yorkshire fog
 native swamp millet
 tall fescue
 ryegrass
 paspalum
 mercer grass
 ratstail

SEDGES & RUSHES

*Carex leporina** (FACW)
Carex subdola (OBL)
*Cyperus brevifolius** (FACW)
*C. eragrostis** (FACW)
Eleocharis acuta(OBL)
Isolepis prolifera (OBL)
I. reticularis (FACW)
Juncus articulatus (FACW)
J. australis (FACW)
*J. effusus** (FACW)
J. edgariae (FACW)
J. prismatocarpus (FACW)

globe sedge
tall flatsedge umbrella sedge

jointed rush
wiwi
soft rush
wiwi/ Edgars rush

TREES & SHRUBS

Dacrycarpus dacrydioides
*Pinus spp**
Podocarpus totara
*Ulex europaeus** (FACU)
Vitex lucens

kahikatea

 tōtara
 gorse
 pūriri

FERNS

Astrolechnum penna marina
Lindsaea linearis (FACW)

Swamp kiokio
 common Lindsey

VINES

Blackberry *

LICHENS LYCOPODS BRYOPHYTES

Plants given as rare in Northland as per Wildlands (2012)
 No orchids were observed

Proposal: To undertake a papakāinga development comprising 17 new 3,000m² 'Exclusive Use Areas' that provide for up to 34 dwellings, 3 new entrances, shared accessways, onsite infrastructure and associated enabling works.

Address: 2956 State Highway 12, Waimā

District Plan: Operative Far North District Plan (ODP)

Site Zoning	
Zone	Rural Production
Overlays/Controls	Outstanding Landscape
Designations	N/A

Rule	Compliance	Non-Compliance
Chapter 8 - Rural Environment - Section 6 – Rural Production Zone		
8.6.5.1 Permitted Activities		
8.6.5.1.1 Residential Intensity	N/A – Separate residential intensity rules apply to Papakāinga Housing.	
8.6.5.1.2 Sunlight • 2m + 45°	Complies – Refer to the elevations provided with Appendix 3.	
8.6.5.1.3 Stormwater Management • Maximum 15% of impermeable surfaces	Complies – Impermeable surfaces of <1% is proposed. <i>Note: All exclusive use areas will have a compliant impermeable surfaces area, with between 8.7% and 15% proposed.</i>	
8.6.5.1.4 Setback from Boundaries • 10m of any site boundary	Complies – Refer to the site plans provided within Appendix 3.	
8.6.5.1.5 Transportation		Refer below.
8.6.5.1.6 Keeping of Animals	N/A – No keeping of animals proposed.	
8.6.5.1.7 Noise	Will comply.	
8.6.5.1.8 Building Height • Maximum 12m	Complies – The proposed papakainga whare are less than 12m in height refer to Appendix 3.	
8.6.5.1.9 Helicopter Landing Area	N/A – Not relevant to the proposal.	

Rule	Compliance	Non-Compliance
8.6.5.1.10 Building Coverage <ul style="list-style-type: none"> Maximum 12.5% 	Complies – A building coverage of <1% (refer to ‘Site mapping context’ of Appendix 3) is proposed, with 12.5% permitted. <i>Note: All exclusive use areas have a compliant building coverage, with between 4.3% and 12.5% proposed.</i>	
8.6.5.1.11 Scale of Activities	N/A – Does not apply to papakainga.	
8.6.5.1.12 Temporary Events	N/A – Not relevant to the proposal.	
8.6.5.2 Controlled Activities		
8.6.5.2.1 Stormwater Management <ul style="list-style-type: none"> Maximum 10% of impermeable surfaces 	N/A – Compliant with Standard 8.6.5.1.3.	
8.6.5.2.2 Papakainga Housing <ul style="list-style-type: none"> Complies with all permitted activities in this zone and in Part 3 - District Wide Provisions; Each residential unit has 3,000m² for its exclusive use, provided that the amount of land elsewhere on the site is not less than that required for Rule 8.6.5.4.1. 		Infringes as follows: <ul style="list-style-type: none"> The proposal does not comply with all District Wide matters, refer below; and Each exclusive use area is proposed to allow for up to two residential units, resulting in each unit not having 3,000m² for its exclusive use. Accordingly, the proposal is for Integrated Development which is a discretionary activity pursuant to Rule 8.6.5.4.2.
8.6.5.2.3 Minor Residential Unit	N/A – Not relevant to the proposal.	
8.6.5.2.4 Noise Limits for Temporary Military Training	N/A – Not relevant to the proposal.	
8.6.5.2.5 BUILDING COVERAGE <ul style="list-style-type: none"> Maximum 15% 	N/A – Compliant with Standard 8.6.5.1.10.	
8.6.5.3 Restricted Discretionary Activities		
8.6.5.3.1 Transportation		Refer below.
8.6.5.3.2 Building Height <ul style="list-style-type: none"> Maximum 15m. 	N/A – Compliant with Standard 8.6.5.1.8	
8.6.5.3.3 Sunlight	N/A – Compliant with Standard 8.6.5.1.2.	

Rule	Compliance	Non-Compliance
8.6.5.3.4 Setback from Boundaries	N/A – Compliant with Standard 8.6.5.1.4.	
8.6.5.3.5 Noise	N/A – Compliant with Standard 8.6.5.1.7.	
8.6.5.3.6 Residential Intensity <ul style="list-style-type: none"> One unit per 4ha of land; Each unit shall have at least 3,000m² for its exclusive use surrounding the unit plus a minimum of 3.7ha elsewhere on the property. 	N/A – Separate residential intensity rules apply to Papakāinga Housing.	
8.6.5.3.7 Scale of Activities	N/A – Does not apply to papakainga.	
8.6.5.4 Discretionary Activities		
8.6.5.4.1 Residential Intensity	N/A – Separate residential intensity rules apply to Papakāinga Housing.	
8.6.5.4.2 Integrated Development	Complies – The proposal is for papakainga housing on Māori freehold land with a management plan provided throughout this application and accompanying specialist reports. Discretionary Activity	
8.6.5.4.3 Helicopter Landing Area	N/A – Not relevant to the proposal.	
8.6.5.4.4 Scale of Activities	N/A – Not relevant to the proposal.	
Chapter 12 - Natural and Physical Resources		
Section 1 – Landscape and Natural Features	N/A – The proposed development is outside of the Outstanding Landscape as shown on the Resource Maps.	
Section 2 - Indigenous Flora and Fauna	N/A – No indigenous vegetation clearance is proposed.	
Section 3 – Soils and Minerals	Earthworks are proposed as follows: <ul style="list-style-type: none"> Stages 1 and 2 (DA02 + Bull Paddock): 940m³ of cut/fill over an area of 3,670m²; Stage 3 (DA04): 860m³ of cut / fill over an area of 2840m². Complies as follows:	

Rule	Compliance	Non-Compliance
	<ul style="list-style-type: none"> Earthworks of 1,800m³ is proposed, where 5,000m³ is permitted; and The earthworks do not involve a continuous cut or filled face exceeding an average of 1.5m in height. <p>The proposed earthworks are a permitted activity pursuant to Rule 12.3.6.1.1.</p>	
Section 4 – Natural Hazards	Complies.	
Section 5 – Heritage	N/A – Not relevant to the proposal.	
Section 6 – Air	N/A – Deleted subject to Plan Change 14.	
Section 7 – Lakes, Rivers, Wetlands and the Coastline	<p>Otherwise complies as follows:</p> <ul style="list-style-type: none"> Buildings and impervious areas not associated with the vehicle accesses and stream crossings are set back at least 30m from the streams; and There are no works proposed within the identified wetlands. 	The indicative wastewater fields are within 30m of the identified wetlands on site, with a maximum encroachment of 15m to the required setback. This is a discretionary activity pursuant to Rule 12.7.6.3.
Section 8 – Hazardous Substances	Road and private way construction is a permitted activity pursuant to Rule 12.8.6.1(i).	
Section 9 – Renewable Energy and Energy Efficiency	N/A – Not relevant to the proposal.	
Chapter 13 - Subdivision		
13.6-13.11	N/A – No subdivision is proposed.	
Chapter 15 - Transportation		
15.1.6A Traffic		
15.1.6A.2-6 Traffic Intensity		<p>Appendix 3A of the ODP calculates traffic generation as follows:</p> <ul style="list-style-type: none"> Papakāinga house = 5 TIFs Kuia/ kaumatua housing = 2 per house Residential unit = 10 TIFs <p>The proposal is for 17 new Licence to Occupy areas that can accommodate a maximum of:</p> <ul style="list-style-type: none"> 15 papakāinga exclusive use areas that accommodate

Rule	Compliance	Non-Compliance
		<p>Papakāinga house and kaumatua / kuia housing = 105 TIFs;</p> <ul style="list-style-type: none"> 2 papakāinga exclusive use areas that accommodate 2 x kaumatua / kuia housing = 4 TIFs; Total proposed = 109 TIFs <p>There are 5 existing residential units and 9 existing papakāinga units. As such, there is an existing 95 TIFs associated with existing development.</p> <p>Overall, the proposal results in a total of 204 TIFs to the site with access via a State Highway, where 30 is permitted. This is a discretionary activity pursuant to Rule 15.1.6A.4.1.</p>
15.1.6B Parking		
15.1.6B.1.1 On-Site Car Parking Spaces	Complies – Each exclusive use area will be provided with at least 1 parking space.	
15.1.6B.1.2 Williams Road On-Site Car Parking Spaces	N/A – Not relevant to the proposal.	
15.1.6B.1.3 Kerikeri Road On-Site Car Parking Spaces	N/A – Not relevant to the proposal.	
15.1.6B.1.4 Accessible Car Parking Spaces	N/A – Dwellings are excluded from this standard.	
15.1.6B.1.5 Car Parking Space Standards	Will comply.	
15.1.6B.1.6 Loading Spaces	N/A – The site is not within the Commercial or Industrial Zone.	
15.1.6B.2.1 Cycling Facilities	N/A – The site is not within the Commercial Zone.	
15.1.6B.2.2 Green Space	N/A – The site is not within the Commercial Zone.	
15.1.6B.3.1 Any Activity on Williams Road Car Park, Paihia	N/A – Not relevant to the proposal.	
15.1.6C Access		
15.1.6C.1.1 Private Accessway in All Zones		The proposed access to stages 1 and 2 will serve more than 8 household equivalents and no public road is proposed.

Rule	Compliance	Non-Compliance
		Access is proposed from State Highway 12. Discretionary Activity
15.1.6C.1.2 Private Accessways in Urban Zones	N/A – Not relevant to the proposal.	
15.1.6C.1.3 Passing Bays on Private Accessways in All Zones		Access to stages 2 and 3 will be approximately 200m long with 6m width up to 120m and then 4.5m from 120m onwards. No passing bays are proposed. Discretionary Activity
15.1.6C.1.4 Access Over Footpaths	N/A – No footpaths on State Highway 12	
15.1.6C.1.5 Vehicle Crossing Standards in Rural and Coastal Zones	(b) Will comply	(a) Access has been designed to comply with NZTA standards. (c) Access to proposed stages 2 and 3 will be 4.5m wide and serve more than two properties. Discretionary Activity
15.1.6C.1.6 Vehicle Crossing Standards in Urban Zones	N/A – Not relevant to the proposal.	
15.1.6C.1.7 General Access Standards	Complies as follows: (a) Provision is made such that vehicles do not need to reverse off a site; (b) Complies; (c) N/A – no subdivision proposed; (d) Refer to Appendix 6 cross-sections.	
15.1.6C.1.8 Frontage to Existing Roads	N/A – Subdivision is not proposed.	
15.1.6C.1.9 New Roads	N/A – New road is not proposed.	
15.1.6C.1.10 Service Lanes, Cycle and Pedestrian Accessways	N/A – Not proposed	
15.1.6C.1.11 Road Designations	Complies – approval sought from New Zealand Transport Agency.	
Chapter 16 - Signs and Lighting		
16.6.1.1 Light Spill & Glare	Will Comply.	
16.6.1.2 General Requirements for All Signs	N/A – No signs are proposed.	
16.6.1.3 Maximum Sign Area Per Site	N/A – No signs are proposed.	

Rule	Compliance	Non-Compliance
16.6.1.4 Signs Excluded from Maximum Area Per Site Thresholds	N/A – No signs are proposed.	
16.6.1.5 Signs to Comply with Maximum Area Per Site Thresholds	N/A – No signs are proposed.	

Rules Assessment

Proposal: Papakāinga development and associated works.

Address: 2843 State Highway 12, Waimā

District Plan: Proposed Far North District Plan (PDP)

Site Zoning	
Zone	Māori Purpose - Rural
Overlays/Controls	Coastal Flood (Zone 2: 100 Year Scenario) Coastal Flood (Zone 3: 100 Year + Rapid Sea Level Rise Scenario) River Flood Hazard Zone (10 Year ARI Event) River Flood Hazard Zone (100 Year ARI Event)
Designations	N/A
Rules with legal effect	

Rule	Compliance	Non-Compliance
Part 2 – District Wide matters		
Infrastructure	N/A – Not relevant to the proposal.	
Renewable electricity generation	N/A – Not relevant to the proposal.	
Transport		The proposed accessways do not comply with the permitted activities in TRAN-R2, this is a discretionary activity pursuant to Rule TRAN-R2. The proposal has new vehicle crossings on SH 12 that do not comply with Standard TRANS-S2, this is a discretionary activity pursuant to Rule TRAN-R9.
Natural hazards		The proposed dwelling for Site 03 is within 20m of a contiguous woodlot, this is a discretionary activity pursuant to Rule NH-R5.
Hazardous substances	N/A – Not relevant to the proposal.	
Heritage area overlays	N/A – The site is not subject to a heritage area overlay.	
Historic heritage	N/A – The site is not subject to a historic heritage site.	

Rule	Compliance	Non-Compliance
Notable trees	N/A – The site is not subject to a notable tree.	
Sites and areas of significance to Māori	N/A – The site is not subject to a site or area of significance to Māori	
Ecosystems and indigenous biodiversity	N/A - The site is not subject to a Significant Natural Area.	
Natural character		The proposed buildings are within 30m of a wetland, this is a discretionary activity pursuant to Rule NATC-R1. The proposed earthworks do not comply with NATV-R3 PER-2, this is a non-complying activity pursuant to Rule NATC-R3.
Natural features and landscapes	N/A - The site is not subject to a ONL or ONF.	
Public access	N/A – Not relevant to the proposal.	
Subdivision	N/A – No subdivision is proposed.	
Activities on the surface of water	N/A – Not relevant to the proposal.	
Coastal environment	N/A – Not relevant to the proposal.	
Earthworks	Otherwise complies as follows: <ul style="list-style-type: none"> EW-R12 – The proposal will comply with standard EW-S3 – Accidental Discovery Protocol; and EW-R13 – Erosion and sediment control measures are proposed in accordance with GDO5. 	The proposed earthworks exceed the earthworks standards, this is a restricted discretionary activity pursuant to EW-R1 and EW-R6.
Light	Will comply.	
Noise	Will comply.	
Signs	N/A – Not relevant to the proposal.	
Genetically modified organisms	N/A – Not relevant to the proposal.	
Temporary activities	Will comply.	
Treaty settlement land overlay	N/A – The site is not subject to a treaty settlement land overlay.	
Mineral extraction overlay	N/A – Not relevant to the proposal.	
Māori Purpose Zone		
Māori Purpose Zone Rules		More than 10 residential units are proposed for the papakāinga, this is a restricted discretionary

Rule	Compliance	Non-Compliance
		activity pursuant to Rule MPZ-R5.
Maximum height <ul style="list-style-type: none"> 12m 	Complies – The proposed papakainga whare are less than 12m in height refer to Appendix 4 .	
Height in relation to boundary <ul style="list-style-type: none"> 2m + 55° northern boundary; 2m + 45° eastern and western boundaries; 2m + 35° southern boundary. 	Complies – Refer to the elevations provided with Appendix 4 .	
Setback <ul style="list-style-type: none"> 10m 	Complies – Refer to the site plans provided within Appendix 4 .	
Building or structure coverage <ul style="list-style-type: none"> 50%. 	Complies – A building coverage of <1% is proposed, with 50% permitted. <i>Note: All exclusive use areas have a compliant building coverage, with between 4.3% and 12.5% proposed.</i>	
On-site services <ul style="list-style-type: none"> Any residential unit has a minimum exclusive use area surrounding the unit, for on-site wastewater treatment and disposal, of 2,000m². All wastewater treatment and disposal systems must be contained within the site that the system serves, and be connected to a septic tank or soakage field or an approved alternative means to dispose of sewage in a sanitary manner in accordance with Far North District Council Engineering Standards April 2022. Where sewage is to be disposed to ground, the receiving area must not be: <ul style="list-style-type: none"> land susceptible to instability; or An area identified in the District Plan as subject to inundation; or Used for the disposal of stormwater. A site suitability report for on-site wastewater disposal, 	Complies – Please refer to the Civil Suitability Report included as Appendix 6 .	

Rule	Compliance	Non-Compliance
<p>prepared by a suitably qualified and experienced person, to demonstrate compliance with the above standards, shall be submitted to Council for approval at time of building consent.</p> <ul style="list-style-type: none"> Where a connection to Council's reticulated water systems is not available, all residential units shall have access to potable (drinkable) water from a community water scheme or private water bore or shall be able to store 45,000 litres of potable water from another source. Where a connection to Council's reticulated stormwater system is not available then stormwater must be disposed of in accordance with Far North District Engineering Standards 2022. 		

ADDENDUM – CULVERT DETAILED DESIGN PARAMETERS

ECOLOGICAL IMPACT ASSESSMENT (EcIA) PROPOSED PAKĀINGA DEVELOPMENT
WAIMĀ TOPU B (NA52B/52) STATE HIGHWAY 12, WAIMĀ



PO Box 229, Kerikeri
PH 021 151 8315

The purpose of this document is consideration of the detailed culvert design provided by RS Eng Ltd since the completion of the EcIA (28/2/25), specifically whether they provide for fish passage as per the permitted activity status of *NES-F (2020) REG 70 Culverts*.

CULVERT LOCATIONS:

- Stage 3 entrance to Area 04 culvert crossing in the Whawharu Creek (NZSEG# 1013452)
- Stage 2 replacement existing crossing in Area 02 'the Bull Paddock'

DESIGN PARAMETERS

Required culvert parameters for *NES -F Regs 62; 63; & 70* emphasise preservation of natural flow and the passage of fish. These are addressed in Tables 4-6 of the Civil Suitability Report, State Highway 12, Waima (RS Eng Ltd 28/3/25). In reference to these we consider that the Area 04 culvert crossing:

- *NES F Reg 70 2(a)* design provides for the same passage of fish upstream and downstream as would exist without the culvert
- *NES F Reg 62(3)h* There is no *likelihood that the structure will impede the passage of fish*
- *NES F Reg 63(3)n* There is no need for *any remediation features (for example, baffles or spat rope) in the culvert*

As relevant, demonstrated in RS Eng *Table 5: NES Reg 63(3)* specifically –

- the culvert are not perched so as to provide a structural barrier to passage
- alignment and minimal culvert slope (0.01) are achievable for passage
- hydraulic depth and typical velocities allow passage
- there are low velocity zones and wetted margins for resting prior to passage

In terms of the Stage 2 Area 02 replacement (*other infrastructure*¹) the culvert design is wholly in accordance other than lacking the hydrology sufficient for passage (0.06m c.f to ideal >0.15m²). This is not a real world issue however, as the waterway is a small ephemeral creek without this available flow, there is no resident fish population and no potential for occurrence due to the unsuitability of further shallow ephemeral extent above the culvert install site. We considered the magnitude of effects of this as NEGLIGIBLE, in terms of a change from the current ecological context; ecosystem function, habitat or range for potential site species further downstream. The culvert installation is therefore considered to have a *Very Low or Less than minor effect*.

We consider the design maintains the intentions of the *NPS FM (2020) 3.26 Fish Passage (1)* *The passage of fish is maintained, or is improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habitats*

It also does not contravene Freshwater Fish Regulations (1983) that require permit from DoC:

¹ NES-F (2020) **Other infrastructure** means infrastructure, other than specified infrastructure, that was lawfully established before, and in place at, the close of 2 September 2020 subject to NES-F REG 46

² NIWA (2024) NZ Fish Passage Guidelines V2 prepared for MfE

6(42)(1) no person shall construct any culvert or ford in any natural river, stream or water in such a way that the passage of fish would be impeded

It is recommended a Fish Management Plan (FMP) is provided to minimize the physical risk to native freshwater fish during works in the Whawhara Area 04. Replacement of the existing culvert crossing in the Stage 2 Area 02 Bull Paddock will not require a FMP/ salvage under dry conditions as it is bare clay substrate with no flow.

Sincerely,



Rebecca Lodge, Director
BSc Ecology, PGDipSci Botany (Distinction) OTAGO
Bay Ecological Consultancy Ltd – 021-1518315



From: [Melissa McGrath](#)
To: [Makarena Dalton](#)
Subject: FW: 2956 SH12, Waima - Application-2024-1405 CRM:0503000034
Date: Wednesday, 7 May 2025 4:24:15 pm
Attachments: [image.png](#)
[image.png](#)

Ngā mihi | Kind regards,

MELISSA MCGRATH
Senior Associate
[027 231 9533](tel:0272319533)
MelissaM@barker.co.nz

B&A Logo



barker.co.nz



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From: Tessa Robins (Chester Consultants) <Tessa.Robins1@nzta.govt.nz>
Sent: Wednesday, 7 May 2025 9:09 am
To: Dean S <dean@e-outcomes.co.nz>
Cc: Melissa McGrath <MelissaM@barker.co.nz>; Mihi Harris <mihi@teaupouri.iwi.nz>; Waima Topu B <exec@waimatopu.maori.nz>
Subject: Re: 2956 SH12, Waima - Application-2024-1405 CRM:0503000034

You don't often get email from tessa.robins1@nzta.govt.nz. [Learn why this is important](#)

Hi Dean,

Thank you, just acknowledging that I have seen this but have yet to speak to the traffic engineer. I appreciate your patience.

Ngā mihi

Tessa Robins

Consultant Planner

Te Toki, System Design, Transport Services

Email: Tessa.Robins1@nzta.govt.nz

Mobile: 022 377 8812

From: Dean Scanlen <dean@e-outcomes.co.nz>
Sent: Tuesday, April 29, 2025 9:34 AM
To: Tessa Robins (Chester Consultants) <Tessa.Robins1@nzta.govt.nz>
Cc: Melissa McGrath <MelissaM@barker.co.nz>; Mihi Harris <mihi@teaupouri.iwi.nz>; Waima Topu B <exec@waimatopu.maori.nz>
Subject: Re: 2956 SH12, Waima - Application-2024-1405 CRM:0503000034

Kia ora Tessa. Further to this, I have amended the traffic report to clarify the turn treatments proposed at the crossings for Development Area 2 and the Bull Paddock, see attached. As always, please direct any further questions to me in the first instance and we look forward to Waka Kotahi's approval of this proposal.

Ngā mihi|Regards, Dean Scanlen
BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ
027 472 0945

Engineering Outcomes, Ltd
09 436 5534
www.e-outcomes.co.nz

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On Wed, Apr 2, 2025 at 2:45 PM Dean Scanlen <dean@e-outcomes.co.nz> wrote:

Kia ora Tessa.

The vehicle access crossing for proposed "Development Area 2" is located at more like 1657078.18N 6074262.4E. That for the bull paddock 1657095.5N 6074253.4E Both only a few metres from your coordinates, but best to be as accurate as possible. Otherwise I agree with your summary and coordinates.

In answer to your other questions (in green):

- How will Site 00 be accessed if the existing vehicle crossing is to be closed and the new vehicle crossing that will provide access to Sites 01 and 02 does not extend to the Site? **The access will be extended to the relocated dwelling. There is no need for an easement because there will be no subdivision, the indicated boundaries are just exclusive use areas (EUAs) for each dwelling.**
- Will the existing vehicle access for 2957 SH12 located at 1657017.57, 6074152.42 be retained? **Yes**
- Why would the new vehicle crossing for Development Area 04 be to a Diagram C standard and not a Diagram D standard? **This is explained in paragraph 25 of my traffic report:**

Turn Treatments

25. Recent assessments I have carried out of "turn treatments", from first principles, have concluded that those are not actually warranted for this level of traffic. For example, a recent assessment of Wharekawa Road, Oue (also in the south Hokianga), found that no such treatment is warranted – not even "Diagram D". In particular, "Channelised" treatment for right-turn entries is not warranted according to AUSTROADS¹⁹ and lesser treatments would not have a benefit/cost ratio anywhere near 1.0 even if the costs of the upgrading were close to the average for all such locations²⁰. Wharekawa Road leads to nearly fifty dwellings and that part of SH12 is only slightly less busy than the subject location, so that intersection is many times busier than any of the access crossings in the subject proposal.
- You have stated that the traffic generation of the additional dwellings is estimated as follows, can you please clarify these calculations?
 - 60 movements per day from the Bull Paddock (10 dwellings),
 - Assuming 6vpd, 10 x 6 = 60 **Correct**
 - 18 for Development Area 2 (4 dwellings plus one existing dwelling. Is this existing for Site

00 or the existing dwelling to the south of Site 02?) **18 is correct - only EUAs 0, 1 and 2 lead to the new crossing.**

- Assuming 6vpd, $5 \times 6 = 30$ vpd
- 40 for Development Area 4 (including the existing dwelling) (11 dwellings).
 - Assuming 6vpd, $11 \times 6 = 66$ **40 is correct, in fact conservative (a rounding up of 36) - only six dwellings are proposed to lead to the single access crossing for this development area.**

Ngā mihi, Dean Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ
027 472 0945

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www.e-outcomes.co.nz

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On Fri, Mar 28, 2025 at 1:30 PM Tessa Robins (Chester Consultants)

<Tessa.Robins1@nzta.govt.nz> wrote:

Hi Dean,

Sorry for the delayed response, it took a while to work through the information and speak to the relevant specialists.

My understanding of your new assessment is that the following is proposed:
Development Area 2

- The closure of the existing vehicle crossing that provides access to Waima Topu B Block located at NZTM 1657126.55, 6074370.38.
- The construction of a vehicle access for proposed "Development Area 2" at NZTM 1657078.18, 6074267.37. This will provide access to Site 01 and 02 and a total of four dwellings. This crossing place is proposed to be an NZTA Diagram C Standard as the traffic generation of each dwelling is assumed to be 6vpd.

Bull Paddock

- The construction of a vehicle access for "Bull Paddock" at NZTM 1657096.24, 6074258.26 (directly opposite the vehicle crossing for Development Area 2). This will provide access to Sites 03-12. This crossing place is proposed to be an NZTA Diagram D standard as it will provide access to 10 dwellings.

Development Area 4

- The closure of the existing vehicle crossing that provides access to Waima Topu B Block located at NZTM 1656416.49, 6073270.49.
- The construction of a vehicle access for "Development Area 04" at NZTM 1656363.49, 6073204.50. This will provide access to Site's 13-17 and a total of 10 dwellings. This crossing place is proposed to be an NZTA Diagram C Standard.

A few required clarifications:

- How will Site 00 be accessed if the existing vehicle crossing is to be closed and the new vehicle crossing that will provide access to Sites 01 and 02 does not extend to the Site?
- Will the existing vehicle access for 2957 SH12 located at 1657017.57, 6074152.42 be retained?
- Why would the new vehicle crossing for Development Area 04 be to a Diagram C standard and not a Diagram D standard?
- You have stated that the traffic generation of the additional dwellings is estimated as follows, can you please clarify these calculations?
 - 60 movements per day from the Bull Paddock (10 dwellings),
 - Assuming 6vpd, $10 \times 6 = 60$
 - 18 for Development Area 2 (4 dwellings plus one existing dwelling. Is this existing for Site 00 or the existing dwelling to the south of Site 02?)
 - Assuming 6vpd, $5 \times 6 = 30$ vpd
 - 40 for Development Area 4 (including the existing dwelling) (11 dwellings).
 - Assuming 6vpd, $11 \times 6 = 66$

Ngā mihi

Tessa Robins

Consultant Planner

Te Toki, System Design, Transport Services

Email: Tessa.Robins1@nzta.govt.nz

Mobile: 022 377 8812

From: Dean Scanlen <dean@e-outcomes.co.nz>

Sent: Monday, March 3, 2025 3:04 PM

To: Tessa Robins (Chester Consultants) <Tessa.Robins1@nzta.govt.nz>

Cc: Melissa McGrath <MelissaM@barker.co.nz>; Mihi Harris <mihi@teaupouri.iwi.nz>; Waima Topu B <exec@waimatopu.maori.nz>

Subject: Re: 2956 SH12, Waima - Application-2024-1405 CRM:0503000034

Hi Tessa. It's been a while since you reviewed this, but I did encourage the relocation of the crossing DA02 as you suggested and we have had to wait for civil/geotech input. The attached traffic report reflects all of this and, I believe, answers all of your questions (but do feel free if you have any others).

Ngā mihi, Dean Scanlen
BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ
027 472 0945

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On Mon, Nov 25, 2024 at 3:28 PM Tessa Robins (Chester Consultants)
<Tessa.Robins1@nzta.govt.nz> wrote:

Hi Dean,

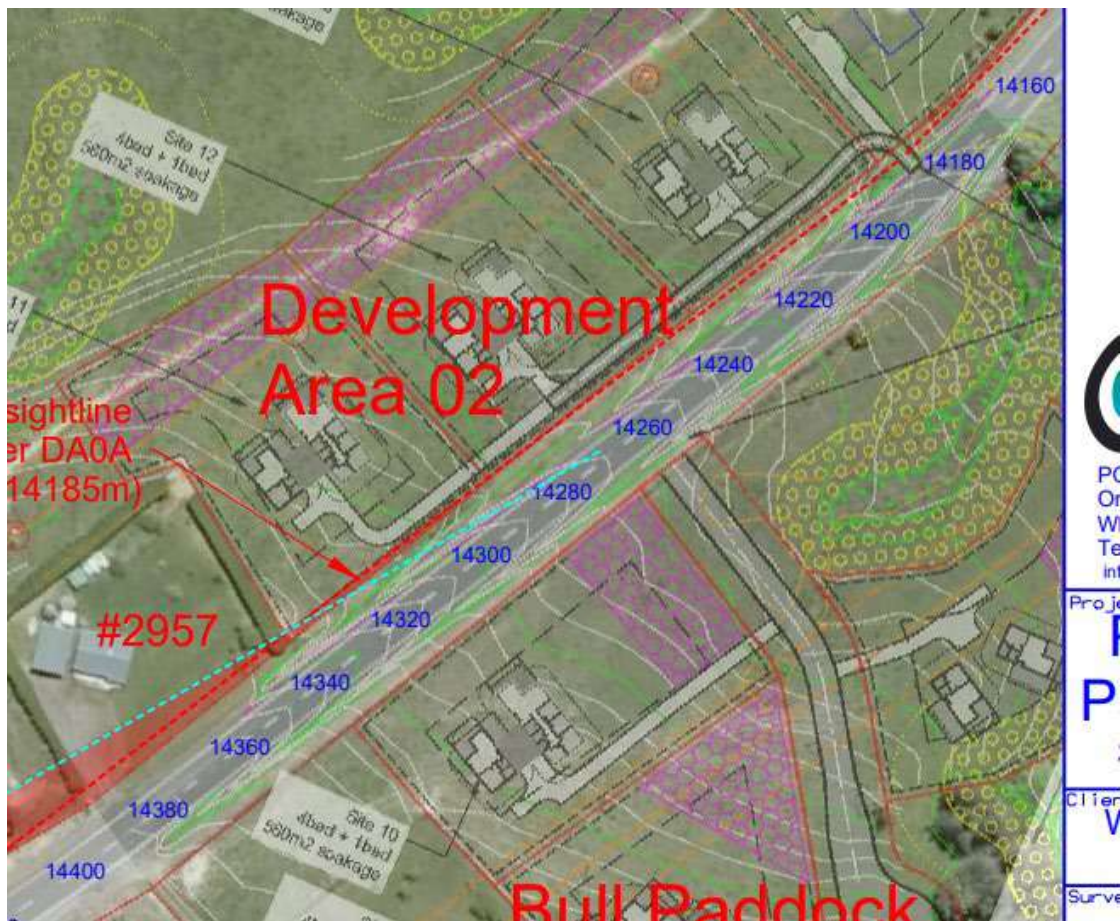
Apologies for the delayed response.

To reiterate the proposed stages:

- Development Area 2:
 - “DA02” on the plans – proposed 6 new dwellings and one relocated dwelling with one new access from the state highway – NZTM 1657108.22, 6074324.46. The access is proposed to be constructed to an NZTA PPM Diagram C standard.
 - “Bull Paddock” on the plans – proposed 20 dwellings with one new access from the state highway – NZTM 1657098.66, 6074261.76. The access is proposed to be constructed to an NZTA PPM Diagram D standard.
- Development Area 4
 - Proposed 10 new dwellings and one existing with one new access from the state highway – NZTM 1656362.56, 6073203.15 and the closure of the existing access at NZTM 1656420.10, 6073268.45. The access is proposed to be constructed to an NZTA PPM Diagram C standard.

Given 11 dwellings will gain access from the proposed vehicle access, could you please confirm the expected traffic generation for Development Area 4?

Was there consideration taken to make the two new vehicle access's a crossroads to support widening on either side when a Diagram D crossing will require as such. It could be something to discuss with the Region's traffic engineer for better outcomes across the board.



Ngā mihi

Tessa Robins

Consultant Planner

Te Toki, System Design, Transport Services

Email: Tessa.Robins1@nzta.govt.nz

Mobile: 022 377 8812

From: Tessa Robins (Chester Consultants) <Tessa.Robins1@nzta.govt.nz>

Sent: Thursday, October 24, 2024 4:58 PM

To: Dean S <dean@e-outcomes.co.nz>

Subject: 2956 SH12, Waima - Application-2024-1405 CRM:0503000034

Kia ora Dean,

Thank you for sending through your client's proposal. I will review the information provided tomorrow to check if it is sufficient to make an assessment.

Please note the Environmental Planning team is experiencing heavy workloads and responses may take longer than desired, we appreciate your patience.

Ngā mihi

Tessa Robins

Consultant Planner

Te Toki, System Design, Transport Services

Email: Tessa.Robins1@nzta.govt.nz

Mobile: 022 377 8812

-----Original Message-----

From: EnvironmentalPlanning@noreply.nzta.govt.nz <EnvironmentalPlanning@noreply.nzta.govt.nz>

Sent: Tuesday, 15 October 2024 1:57 pm

To: Environmental Planning <EnvironmentalPlanning@nzta.govt.nz>

Subject: Submit application

Select reason for contact: Submit application Contact details:

First name: Dean

Last name: Scanlen

Consultant name (if applicable): Engineering Outcomes Ltd Email address: dean@e-outcomes.co.nz Phone number: 0274720945 Preferred method of contact: Email Proposal details:

What is your reason for applying?: Land use development Describe your proposal: Papakāinga housing and associated infrastructure on Waimā Topu B Block, State highway 12, Waimā, Tai Tokerau. Please refer to the attached report for more details.

Give site address: Waimā Topu B Block, State highway 12, Waimā, Tai Tokerau Legal description of the property: Waimā Topu B Block Select your region: Northland Select your local council (Northland region): Northland Regional Council Attachment 1: https://aus01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.nzta.govt.nz%2Fassets%2Fsecure-assets%2Flandusehighway2021%2Fb43ca3919d%2FProposed-Papakāinga-SH12-Waima_Safety-of-access-connection-Draft-of-15-October-2024.pdf&data=05%7C02%7CEnvironmentalPlanning%40nzta.govt.nz%7Ca289ee13c59f4dae13a808dcecb448cf%7C7245e48ca9ff4b2898ef05cfa8edb518%7C0%7C0%7C638645506496724599%7CUnknown%7CTWFpbGZsb3d8eyJWljiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=KrEFpyGZqB%2B03Hn71wEPA0b53GZ4M5Ur6lh4K8RJdz8%3D&reserved=0

Attachment 2:

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